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ABSTRACT

In 1991, an analysis of student graduation, transfer, and persistence rates throughout the Colorado publicly supported postsecondary system was conducted by the Colorado Commission on Higher Education. Data were drawn from files submitted to the Commission by institutions from fall 1986 through fall 1990. Selected findings included the following: (1) in fall 1986, 3,912 in-state students enrolled for the first time at a community college and accumulated at least 12 credit hours at that institution over the following four years; (2) by fall 1990, of those original 3,912 students, 20.7% had transferred to a four-year college or university, 14.5% had completed a two-year degree or certificate and had not transferred, 9.1% were still enrolled at a community college, and 55.7% were no longer enrolled at a Colorado public institution; (3) the community college transfer/persistence/completion rate was highest for Whites (46.8%), and lowest for Blacks (26.1%); (4) in fall 1986, 9,029 in-state students enrolled as full-time freshmen for the first time in a four-year college or university; (5) by fall 1990, 19.1% of the 9,029 had completed a bachelor's degree, 31.4% were still enrolled at their initial institution, 13.3% had transferred to another Colorado public institution, and 36.2% were no longer enrolled at a Colorado public institution; (6) the four-year institution completion/persistence rate was highest for Asians (68%), and lowest for Blacks (44.9%); and (7) the percent of first-time, full-time students still enrolled after one year at community colleges between 1986 and 1989 remained fairly constant, at about 56%, while the percentage of those still enrolled at four-year institutions had increased slightly, from 80.8% to 83.3%. Extensive data tables and graphs are provided. (JMC)

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PERSISTENCE AND COMPLETION RATES COLORADO PUBLIC HIGHER EDUCATION FALL 1986 THROUGH FALL 1990

November, 1991

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EXECUTIVE SUMMARY

INTRODUCTION

This report presents the findings of a Colorado Commission on Higher Education analysis of student graduation, transfer, and persistence rates throughout the Colorado publicly-supported postsecondary system. All reported data is from data files submitted to the Commission by institutions from fall 1986 through fall 1990. The primary analysis is focused on Colorado resident (in-state) students that attempt at least twelve credit hours at their initial institution. This report is part of a 1990 project funded with a grant from the Ford Foundation and the State Higher Education Executive Officers (SHEEO) Association. This is the first time that such data has been prepared by the Commission, and as such, the results should primarily be used as benchmarks for future comparisons.

FINDINGS

Community College Transfer/Persistence/Completion Rates

In fall 1986, 3,912 in-state students enrolled for the first time at a community college and accumulated at least twelve credit hours at that institution over the following four years.

- By fall 1990:
  - -- 20.7% had transferred to a four-year college or university;
  - -- 14.5% completed a two-year degree or certificate and didn't transfer[1];
  - -- 9.1% were still enrolled at a community college: and
  - -- 55.7% were no longer enrolled at a Colorado public institution.

- community college transfer/persistence/completion rates ranged from 28.3% to 62%;
- 46.8% of Whites transferred, persisted, or completed a degree.
- 40.2% of Asians transferred, persisted, or completed a degree.
- 36.4% of Native Americans transferred, persisted, or completed a degree.
- 35.5% of Hispanics transferred, persisted, or completed a degree.
- 26.1% of Blacks transferred, persisted, or completed a degree.

[1]Students who completed a two-year degree or certificate and also transferred are reported in the transfer percentage.

Four-Year Sector Completion/Persistence Rates

In fall 1986, 9,029 in-state students enrolled as full-time freshmen for the first time in a four-year college or university.

- By fall 1990:
  - -- 19.1% had completed a bachelor's degree;
  - -- 31.4% were still enrolled at their initial institution;
  - -- 13.3% had transferred to another Colorado public institution; and
  - -- 36.2% were no longer enrolled at a Colorado public institution.
- four-year college and university completion/persistence rates ranged from 45.1% to 76.5%;
- 68% of Asians completed, persisted, or transferred.
- 65% of Whites completed, persisted, or transferred.
- 55.1% of Hispanics completed, persisted, or transferred.
- 47.2% of Native Americans completed, persisted, or transferred.
- 44.9% of Blacks completed, persisted, or transferred.

Fall-to-Fall Persistence at Community Colleges

Comparisons of the fall classes at community colleges of first-time, full-time students between 1986 and 1989 indicate that:

- the percent of students still enrolled after one year remained fairly constant, about 56%;
- on average:
  - -- 58% of Whites are still enrolled after one year
  - -- 55% of Asians are still enrolled after one year
  - -- 50% of Native Americans are still enrolled after one year
  - -- 48% of Hispanics are still enrolled after one year
  - -- 38% of Blacks are still enrolled after one year

Fall-to-Fall Persistence at Four-Year Colleges and Universities

Comparisons of the fall classes at four-year college and universities of first-time, full-time freshmen between 1986 and 1989 indicate that:

- the percent of students still enrolled after one year increased slightly, from 80.8% to 83.3%;

- on average:

  -- 84% of Asians are still enrolled after one year
  -- 83% of Whites are still enrolled after one year
  -- 74% of Hispanics are still enrolled after one year
  -- 71% of Native Americans are still enrolled after one year
  -- 70% of Blacks are still enrolled after one year

National Comparisons

Colorado students have very similar transfer, persistence, and completion rates to those reported nationally. Colorado rates are about the same or slightly higher as national rates; and as in the national data, rates for ethnic minorities are much lower than for Whites.

Concluding Comments

This report identifies several areas of concern for Colorado. For example, a 20% rate for completing a bachelor's degree after four years, while consistent with national data, is contrary to the public perception that most students will complete a four-year degree at a four-year institution after four years. One can ask if a 20% rate after four years is acceptable and whether statewide goals should be set for improvements in this rate.

In addition, the significantly lower graduation rates for ethnic minorities is also an area of great concern. If a 20% rate after four years for Whites is a concern, then a 6.5% rate for Blacks, a 7.5% rate for Native Americans, and an 11.2% rate for Hispanics are even greater concerns.

This report also identifies concerns about students who start their education at community colleges. Only 44% of community college students that accumulate at least twelve credit hours, transfer, persist, or complete after four years. As with bachelor's degree graduation rates, the transfer, persistence, and completion rates for community college students also vary greatly by ethnic minority group. Only about a quarter of the Black

students (26.1%) and a third of the Hispanic students (35.5%) that accumulate twelve credit hours at a community college transfer, persist, or complete after four years.

The fall-to-fall persistence rates in this report are also not greatly encouraging. There has not been a clear pattern of improvement in the persistence of full-time, first-time students to the second fall over the last four years. Much progress needs to be made in Colorado, as is the case also in the rest of the nation, if minority students are to start to complete higher education in the same proportions as White students.

I. INTRODUCTION

This report presents the findings of a Colorado Commission on Higher Education analysis of student graduation, transfer, and persistence rates throughout the entire Colorado publicly-supported postsecondary system.

This report includes:

1) Transfer, persistence, and completion data about students who initially attended community colleges and accumulated at least twelve credit hours at the community college;

2) Completion and persistence data about students who initially enrolled in a four-year college or university as full-time students; and

3) Multi-year comparison of fall-to-fall persistence data for both two-year and four-year first-time students that initially enroll full-time.

All data reported is from data files submitted to the Commission from the institutions from fall 1986 through fall 1990. The primary analysis is focused on Colorado resident (in-state) students that attempt at least twelve credit hours at their initial institution. This report is part of a 1990 project funded with a grant from the Ford Foundation and the State Higher Education Executive Officers (SHEEO) Association.

Statewide persistence, transfer, and completion data is applicable to several Commission policy areas:

- it plays a role in accountability, reporting on the likelihood of students completing their degrees -- several institutions plan on using this data in their accountability reports to the Commission;

- this data will also be included in the next edition of the *Scorecard* as a measure of systemwide accountability;

- transfer rates provide background information for the Commission's efforts in promoting transfer within the system;

- persistence and completion rates are important factors when estimating future institutional enrollment;

- persistence and completion rates by ethnicity are important to the Commission's statewide affirmative action goals as a measure of institutional progress in graduating minority students at the same rate as Whites; and

- the recently passed Federal "Student Right to Know" law requires reporting of completion rates for all colleges and universities, this data reporting capacity, therefore, is now required of all institutions.

Transfer rates from community colleges to four-year colleges and universities in Colorado are reported in Section II. In addition, an overall persistence/completion rate is calculated that summarizes the overall rates of students transferring, receiving a two-year degree or certificate, or continuing their enrollment during the four-year period after initial enrollment.

A parallel analysis for students initially enrolling in the four-year sector is provided in Section III. Receipt of a baccalaureate degree is the primary measure of completion, and continued enrollment and/or transfer within the system included as part of the analysis.

Section IV reports changes in fall-to-fall persistence over the last four years (fall 1986 to fall 1987 through fall 1989 to fall 1990). This analysis is provided for both two-year and four-year institutions. Increases in fall-to-fall persistence may result in increases in total persistence and completion rates into the future, so this section serves as a prediction of future increases or decreases in the two-year and four-year persistence/completion rates reported in previous sections.

Comparisons to national data are provided in Section V to provide a context for evaluating the results of this report. Finally, Section VI describes some of the analyses planned in future reports. Several attachments are included that list detailed data by institution. Attachment 1 includes a list of the institutional abbreviations used in this report.

The persistence and completion rates in this report can serve as a baseline for evaluating future changes in persistence and completion at Colorado colleges and universities. Because of differences in the roles and missions of institutions and differences in the composition of student bodies, comparisons between institutions should be made with caution. Multi-year comparisons within the same institution over time will be useful in the future as a means of evaluating whether or not an institution is making progress in retaining and graduating students. It is also important to note that a persistence and completion analysis reflect what was happening at an institution four or more years in the past -- it does not necessarily reflect current programs or changes that an institution may have made to correct past deficiencies or to enhance past successes.

II. TRANSFER/PERSISTENCE/COMPLETION RATES, TWO-YEAR SECTOR

SUMMARY

This section summarizes initial work by the CCHE to calculate transfer rates for the public community college system in Colorado. Data from the Commission's Cohort Tracking System is used to follow fall 1986 first-time community college students through fall 1990. Transfer rates are calculated for in-state students without missing demographic data and who accumulate at least 12 credit hours at their initial community college. Some results from this analysis include:

- the transfer rate after four years was 20.7%;
- 14.5% of the students completed a degree or certificate during the four years and didn't transfer[1];
- 9.1% of the students were still enrolled in fall 1990;
- 55.7% were no longer enrolled at a Colorado public institution and had not received a degree or certificate by fall 1990;
- the total statewide transfer/persistence/completion rate was 44.3%;
- transfer/persistence/completion rates ranged by institution from a low of 28.3% to a high of 62.0% -- transfer rates ranged from a low of 10.5% to 36.4%;
- the transfer/persistence/completion rate for Whites was (46.8%), the rate for Blacks was 26.1%, for Hispanics, 35.5%, for Native Americans, 36.4%, and for Asians, 40.2%;
- the female transfer/persistence/completion rate was 44.6%, the male rate was 44.0% -- males had a higher transfer rate (23.8%) than females (18.0%); and
- younger students (24 and younger) were more likely to transfer (25.1%) than older students (10.2%), but both younger and older students persisted/ completed at about the same rate (45.1% vs. 42.5%)

Caution must be used in interpreting this data because the number of individuals in some ethnic groups is very small at some institutions. When fall 1991 data is available, rates

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[1]Students who completed a two-year degree or certificate and also transferred are reported in the transfer percentage.

for fall 1987 first-time students can also be calculated. It will be very important to determine if those results are similar or if there is a large variation across years.

CALCULATION OF TRANSFER RATE

For this study, transfer rate is computed by using a national standard[1]. The rate is calculated by dividing the number of students that enter a community college with no prior college experience, and that accumulate 12 or more hours at that institution, into the total number of students who transfer to a four-year institution within four years:

$$\textit{Transfer Rate} = \frac{(\textit{Students Transferring Within Four Years})}{(\textit{Total First-Time Students Accumulating 12 or More Credit Hours})}$$

PERSISTENCE/COMPLETION RATE

Two other outcomes are tracked in addition to transfer rate: receipt of a degree or certificate and continued enrollment in the fifth fall. These three measures are then combined as a measure of "persistence/completion". All students are then categorized into one of the following four categories:

- students who transferred to (enrolled at) a Colorado public, four-year institution at any time from fall 1987 through fall 1990;
- students who did not transfer, but who received a degree or certificate within the five year period;
- students who did not receive a degree or certificate or transfer, but who are still enrolled in a public community college in fall 1990; and
- students who did not continue enrollment in fall 1990, receive a degree or certificate, or transfer.

Students in the first three categories are assumed in this study to have persisted or completed. This persistence/completion ratio is an important secondary measure of this analysis.

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[1]The method used comes from work done by A. M. Cohen in a Ford Foundation study of Community Colleges.

DESCRIPTION OF THE DATA

The student data used for this study included all first-time students at Colorado public community colleges (both degree-seeking freshmen and non-degree-seeking special students) in fall 1986[1]. First-time, two-year program students at Adams State College and Mesa State College wee also included. The number of students who accumulated 12 or more hours was estimated by adding attempted hours over the number of terms of continued enrollment available for each student. In addition, if a student was subsequently reported as having achieved sophomore status or as having received a two-year degree or certificate, they were assumed to have accumulated 12 or more hours. The enrollment of these students was tracked from fall 1986 through fall 1990.

Attachment 3 summarizes the data used for this analysis. The data was categorized by ethnicity, gender, and age group. There were a total of 10,002 students in the initial pool. Of these, 93.6% were in-state students. Because of a desire to focus this study on Colorado students, all out-of-state students were dropped from the pool, leaving 9,362 students. Of these, 46.6% accumulated 12 credit hours or more at their initial institution, leaving 4,359 students in the pool. Finally, all students with missing ethnicity or missing gender on the data files, and all non-resident aliens were dropped from the analysis, leaving a total of 3,912 students for the actual analysis. The attachment gives the count of students in each stage of the reduction for the state total and for each individual institution.

RESULTS

Over 60% of the fall 1986 students were excluded from the analysis (students who took fewer than 12 credit hours at their initial institution, started as out-of-state students for residency purposes, or had missing ethnicity or gender on the data files). Table 1 is provided to show the differences in transfer/persistence/completion rates of the total class by residency and attendance status.

Only 25.7% of the 10,002 fall 1986 students persisted or completed, and only 12.3% transferred. This reflects the fact that many students start at community colleges for purposes other than completing a degree or preparing to transfer to a four-year college or university. When only in-state students are considered, 25.9% of the 9,362 in-state students persist or complete, and 12.5% transfer. Out-of-state students have slightly

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[1]Due to data problems, data for four community colleges are excluded from the fall 1986 analysis: Colorado Mountain College is excluded since credit hour data was missing for most first-time students in fall 1986; Morgan Community College and Trinidad State Junior College are excluded due to data problems; and Northeastern Junior College is excluded since data for their fall 1986 data is unavailable.

lower persistence/completion and transfer rates. For the 640 out-of-state students, 21.6% persist or complete, and 9.5% transfer.

The persistence/completion rate for the 4,359 in-state students that accumulated 12 or more credit hours is 41.7%; they also have an 18.7% transfer rate. Contrasting this with only a 12.2% persistence/completion rate and a 7.1% transfer rate for those accumulating fewer than 12 hours, supports the decision to only include students that complete 12 or more hours in the remainder of the analysis.

The persistence/completion rate for this group is 44.3%, and the transfer rate is 20.7% (Table 2). Attachment 2 gives the detailed rates for each institution by subcategory, and Figures 1 through 4 display this data graphically. Each graph consists of a stacked bar that shows the three components of the persistence/completion rate: transfer rate at the bottom, degree/certificate rate in the middle, and continued enrollment rate in the fifth fall on the top. The total height of each bar represents the persistence/completion rate. At the top of each bar is the count of the total number of individuals in that category. The left most bar in each chart represents the total data for all students. This is followed by the state system community colleges, the local district colleges, and finally, by the two four-year institutions that also have a two-year role and mission. This is the same order for listing institutions as used in Attachments 2 and 3.

Overall

There is a wide variation between institutions, ranging from a total persistence/completion rate of over 60% for Aims Community College (AIMS) to less than 30% for the Community College of Denver (CCD)[1]. The components of persistence/completion also vary across institutions. Institutions such as Adams State College (ASC) and Mesa State College (MESA) have proportionately high transfer rates because many students begin in their two-year programs and transfer into their four-year programs. Some institutions, such as Pueblo Community College (PCC), have relatively high completion rates, while other institutions, such as the Community College of Aurora (CCA), have very high continued enrollment rates.

Overall by Ethnic Group

There are also large differences between ethnic groups (see Figure 1, continued). The persistence/completion rate for Blacks is only about half the rate for Whites (26.1% compared to 46.8%). The rates for Hispanics, Native Americans, and Asians are also less than the rates for Whites (35.5%, 36.4%, and 40.2%, respectively). Transfer rates

[1]See Figure 1.

are similarly lower for ethnic/ minority groups than for Whites. Less than half the percent of Blacks transfer after four years than Whites (10.6% compared to 22.0%).

Overall by Age Group and Gender

The pattern of persistence/completion rates by gender and age group (Figure 1 continued) are very similar. There are very big differences, however, between the components. For example, the younger age group is much more likely to transfer (25.1% compared to 10.2%), while the older age group is more likely to complete a two-year degree or certificate or to remain enrolled at a community college. There is a similar pattern for gender. Overall rates are very similar by gender, differing only by 0.6% (44.0% compared to 44.6%), but males are more likely to transfer (23.8% compared to 18.0%), and females more likely to complete or remain enrolled.

By Institution and Ethnic Group

The data for Whites is very similar to the overall data graphed in Figure 1. The data for Hispanics shows a different pattern[1]. The small size groups for several institutions may account for much of the variation, for example, there are only 16 Hispanics at Lamar Community College (LCC), of which 7 are reported as having received a degree or certificate (43.8%) and none as having transferred or continued their enrollment. Hispanics have higher rates than Whites at some institutions, for example, Pueblo Community College (PCC) and Mesa State College (MESA), but in general, the rates for Hispanics are lower than the rates for Whites.

The data for Blacks and Asians (second page of Figure 2) only allowed comparisons for four institutions. These are institutions in Denver and Colorado Springs where the population of Blacks and Asians was sufficient for there to be at least 10 students in the initial groups. It is difficult to draw definitive conclusion from such incomplete data.

By Institution and Gender

The persistence/completion bars by gender for each institution are graphed in Figure 3. As in the overall comparison in Figure 1, the total rates don't differ much by gender between institution, but the components differ greatly. At almost all institutions, males are more likely to transfer while females are more likely to complete a degree or certificate or continue their enrollment. There are a few institutions where this difference

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[1]See Figure 2, note that bars are only graphed when there are at least 10 students. Native American students are not graphed since only one institution had at least 10 Native American students.

is extreme, for example, Colorado Northwestern Community College (CNCC), where only a very small percentage of their female students transfer. In contrast, females at the Community College of Denver (CCD) and Adams State College (ASC) are slightly more likely than males to transfer.

By Institution and Age Group

Finally, persistence/completion by age group is graphed in Figure 4. The patterns are similar to the overall age group patterns in Figure 1, the younger group is much more likely to transfer but the overall persistence/completion rates are similar. As with gender, there are some notable exceptions. Older students at Adams State College (ASC) are more likely than younger students to transfer (in the case of ASC, this consists of continuing on into their four-year program for most students). At Otero Junior College (OJC), older students have significantly lower persistence/completion rates than younger students; in contrast, older students at the Community College of Aurora (CCA) have significantly higher persistence/completion rates.

FUTURE STEPS

In many ways, this analysis of transfer rates and overall persistence/completion rates is only a first step. The study provides data on the percent of community college students that transfer, but it does not answer the question about what happens to them after they transfer. It will be important in future analyses to follow students that transfer and compare their performance and persistence with native students and with students that transfer from one four-year institution to another.

In addition, this analysis should be treated as a baseline for future comparisons. It is more important to look at changes within an institution over time than to make comparisons between institutions. External factors, many outside the control of an institution, determine who the student population is and their interest in completing a degree or in transferring. Institutions such as the Community College of Denver serve an inner city population whose needs and concerns are very different from community colleges in the suburbs or in rural areas.

Another factor not represented in this analysis is the program intent of students when they first begin. Students who express an intent to complete a vocational degree or certificate would be expected to show very different persistence/completion patterns than those who initially express an intent to transfer to a four-year institution. A program intent variable is available in the SURDS database and will be included in future analyses to see if it adds additional insight in the effort to explain the data.

Nevertheless, this study points out some significant differences in the persistence/completion and transfer rates between groups, especially for ethnic minorities. Institutions will need to improve the persistence/completion and transfer rates of minority students if they are to meet statewide goals set by the Commission and also serve the citizens of the state.

Table 1

Two-Year Persistence/Completion Rates
for
Entire Fall 1986 Class[1]
By Residency and Attendance Status

Group	N	Persistence/ Completion	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
2Yr Total	10,002	25.7%	12.3%	7.2%	6.1%
In-State	9,362	25.9%	12.5%	7.2%	6.2%
>= 12 hrs	4,359	41.7%	18.7%	14.4%	8.5%
< 12 hrs	5,003	12.2%	7.1%	.9%	4.3%
Out-of-State	640	21.6%	9.5%	8.1%	3.9%
>= 12 hrs	306	33.7%	15.4%	15.0%	3.3%
< 12 hrs	334	10.5%	4.2%	1.8%	4.5%

Table 2

Two-Year Persistence/Completion Rate Analysis
for
Fall 1986 First-Time, In-State Students
to Colorado Public Community Colleges
and Two-Year Programs[1]
Who Took 12 or More Credit Hours at Their Initial Institution

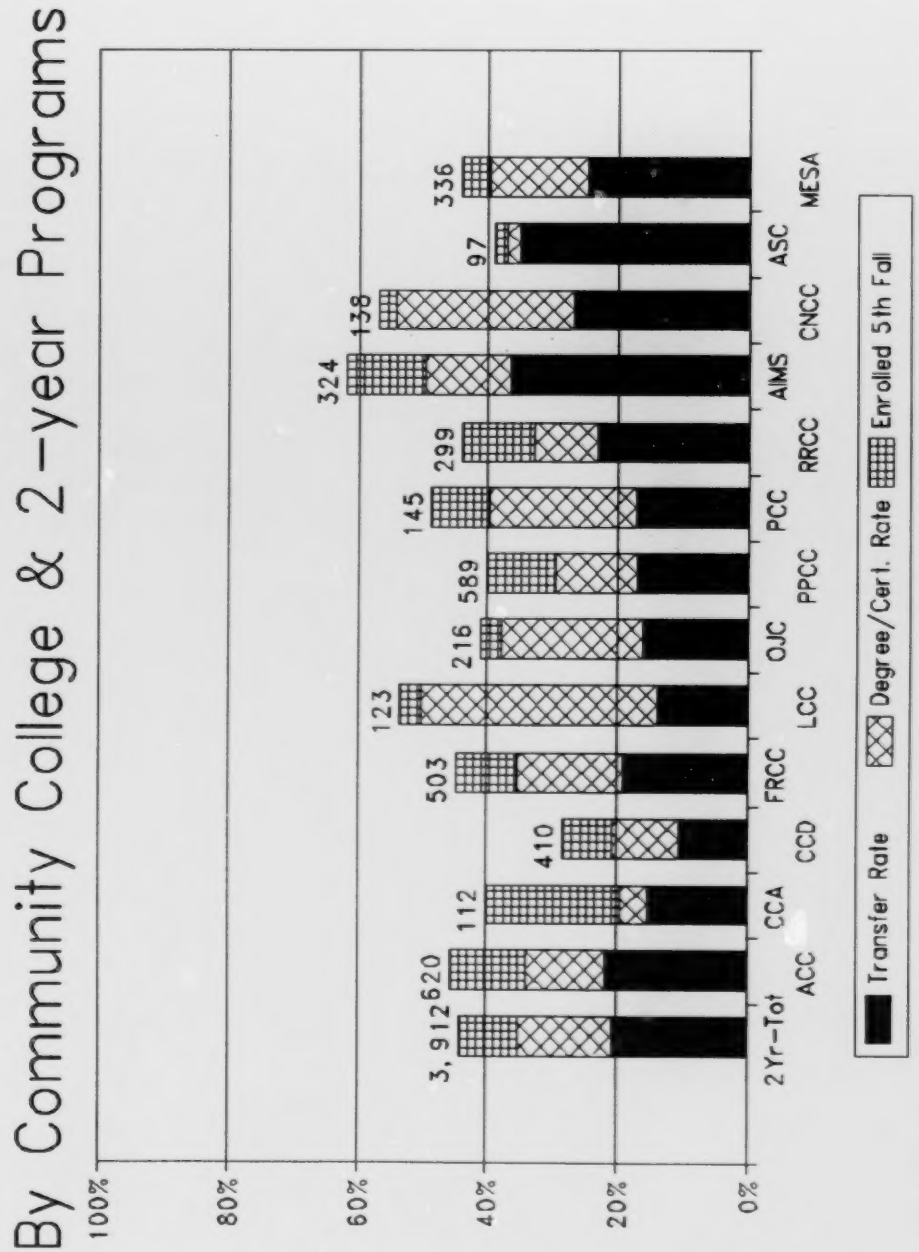
Group	N[2]	Persistence/ Completion[3]	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
2Yr-Tot -- State Total for Two-Year Programs					
Ethnicity					
Black	161	26.1%	10.6%	6.2%	9.3%
Nat Amer	33	36.4%	18.2%	3.0%	15.2%
Asian	102	40.2%	17.6%	13.7%	8.8%
Hispanic	465	35.5%	16.1%	13.1%	6.2%
White	3,151	46.8%	22.0%	15.3%	9.5%
Gender					
Male	1,820	44.0%	23.8%	13.1%	7.0%
Female	2,092	44.6%	18.0%	15.7%	10.9%
Age Group					
0 -- 24	2,766	45.1%	25.1%	12.7%	7.3%
25 -- HI	1,146	42.5%	10.2%	18.9%	13.4%
Total	3,912	44.3%	20.7%	14.5%	9.1%

[1]Due to data problems, four community colleges are excluded from the fall 1986 data: Colorado Mountain College, Morgan Community College, Trinidad State Junior College, and Northeastern Junior College.

[2]Non-Resident Aliens and students with missing ethnicity or gender are excluded. (See Attachment 3).

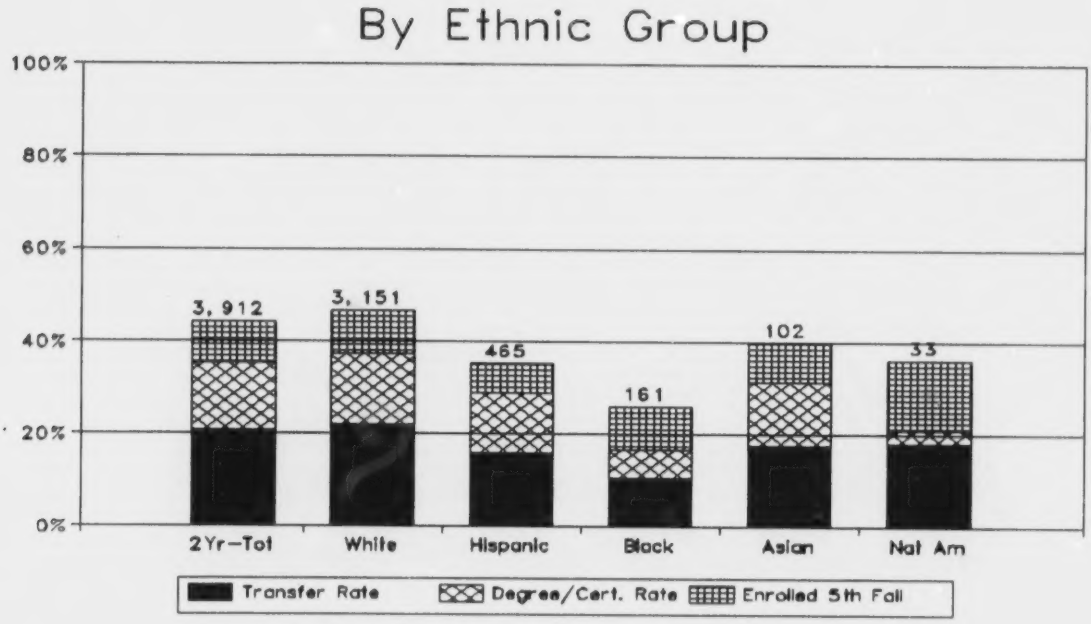
[3]Rates are not computed for subcategories with fewer than 10 students.

Figure 1
Components of Persistence/Completion[1]
by Overall Summaries



[1]Based on first-time, in-state students at Colorado public community colleges in fall 1986 attempting at least 12 credit hours at their initial institution; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

Figure 1 (Continued)



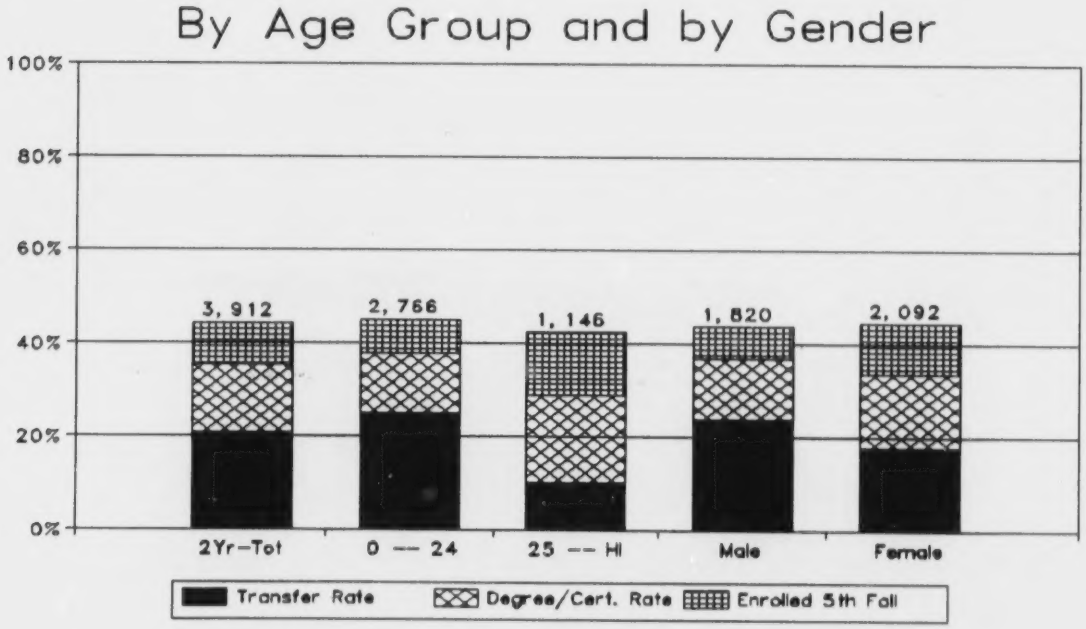
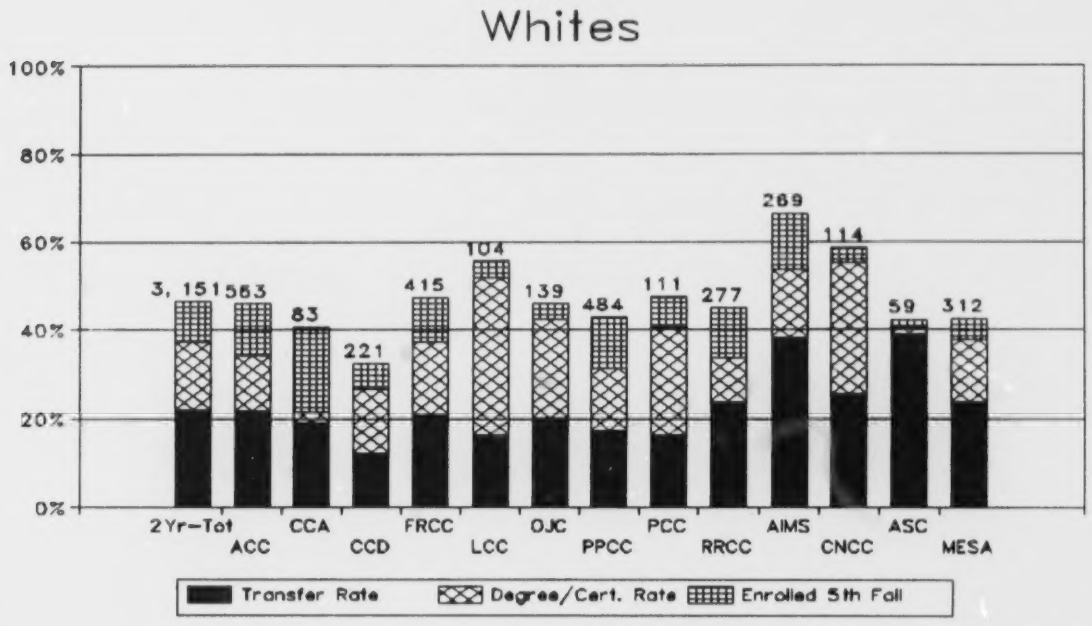
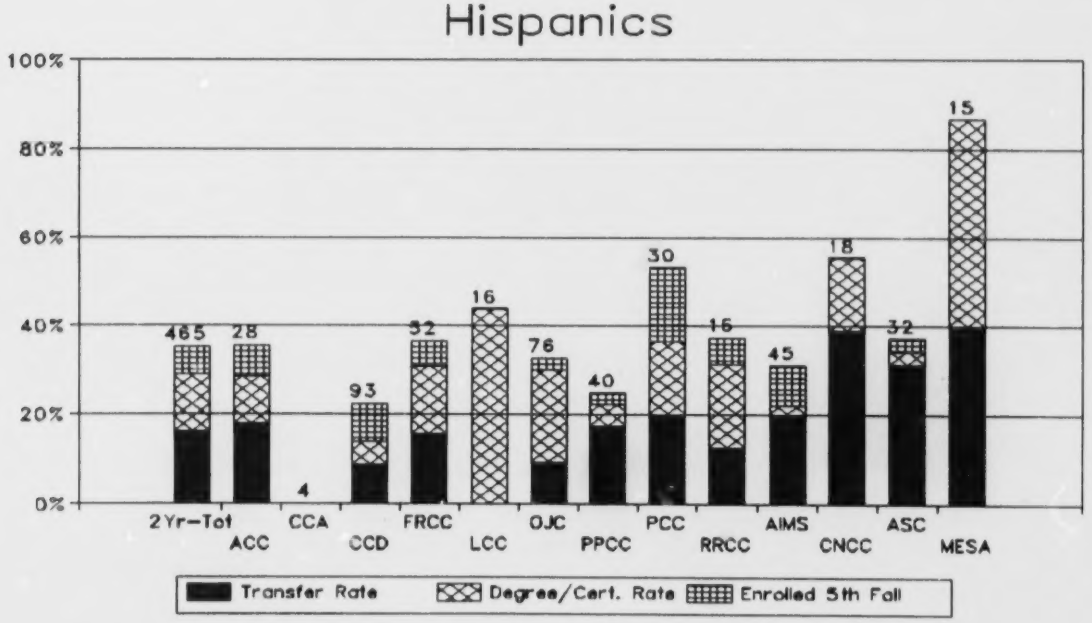


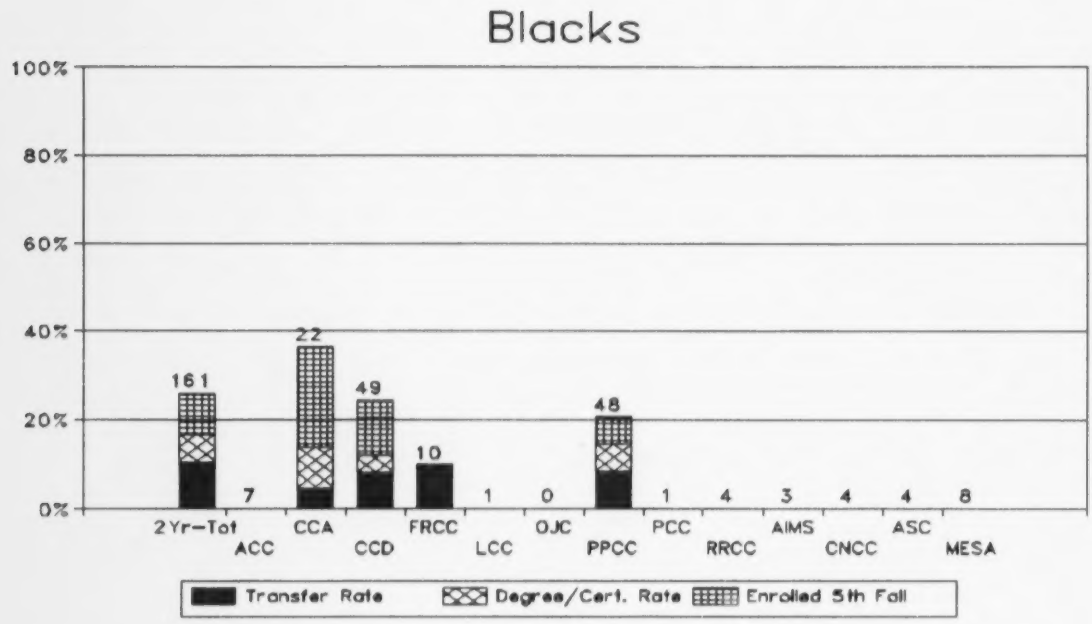
Figure 2
Components of Persistence/Completion[1]
by Ethnicity





[1]Based on first-time, in-state students at Colorado public community colleges in fall 1986 attempting at least 12 credit hours at their initial institution; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

Figure 2 (continued)



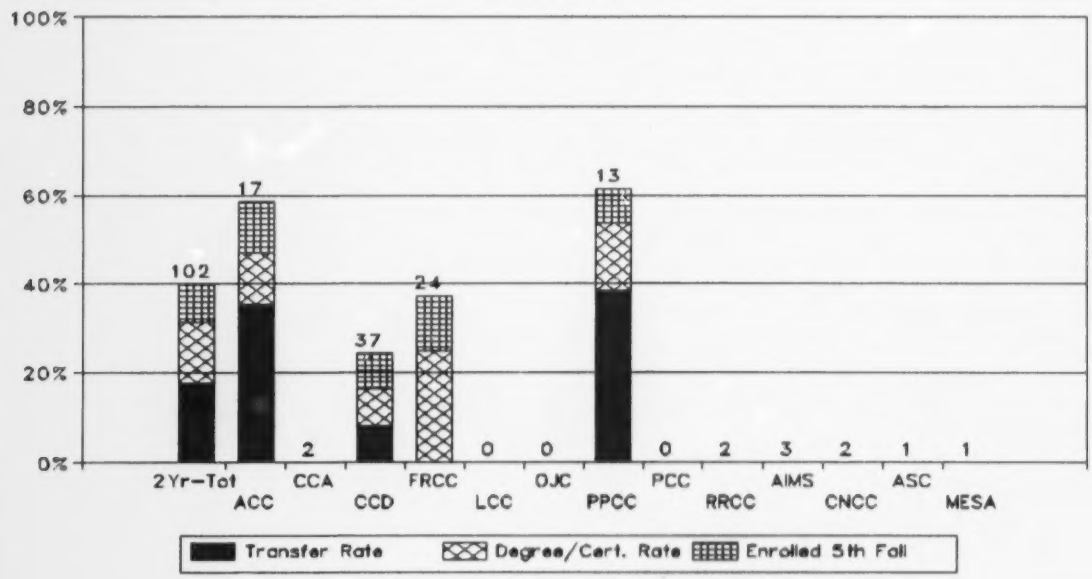
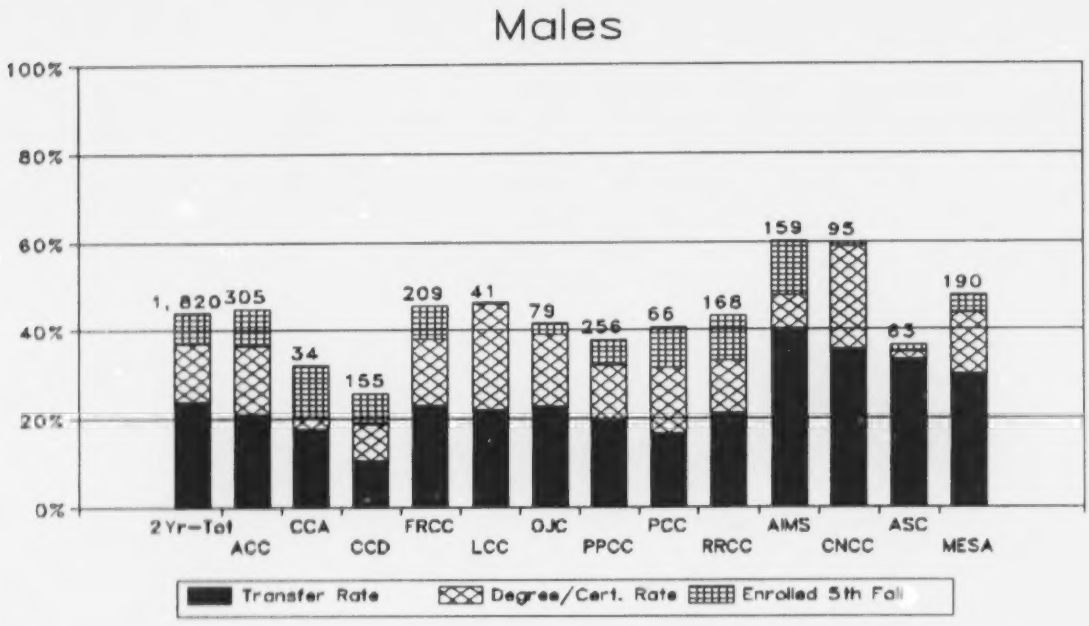
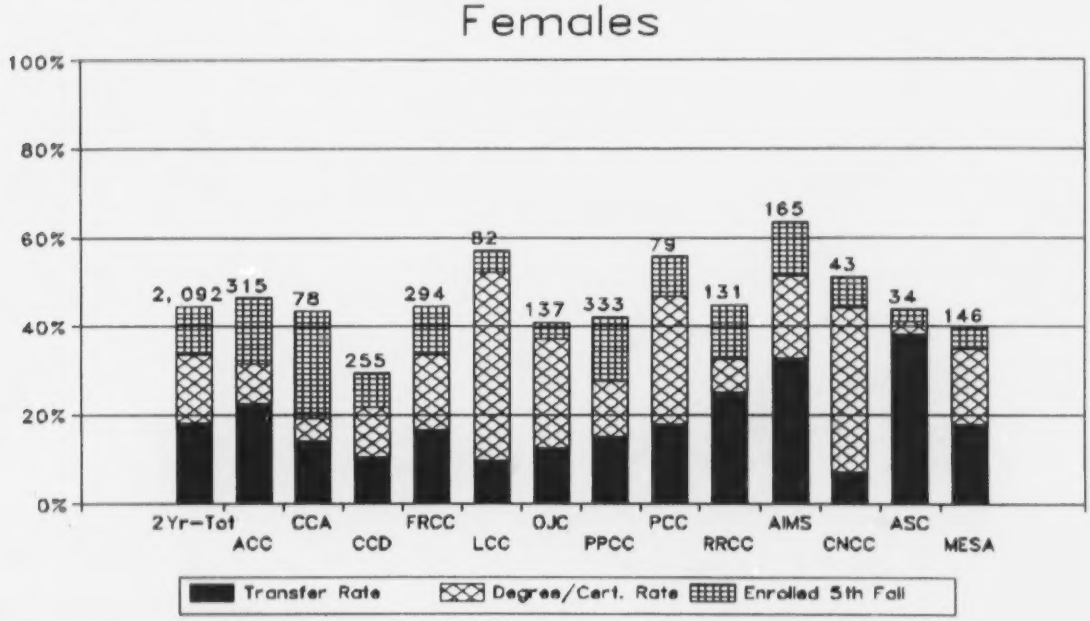


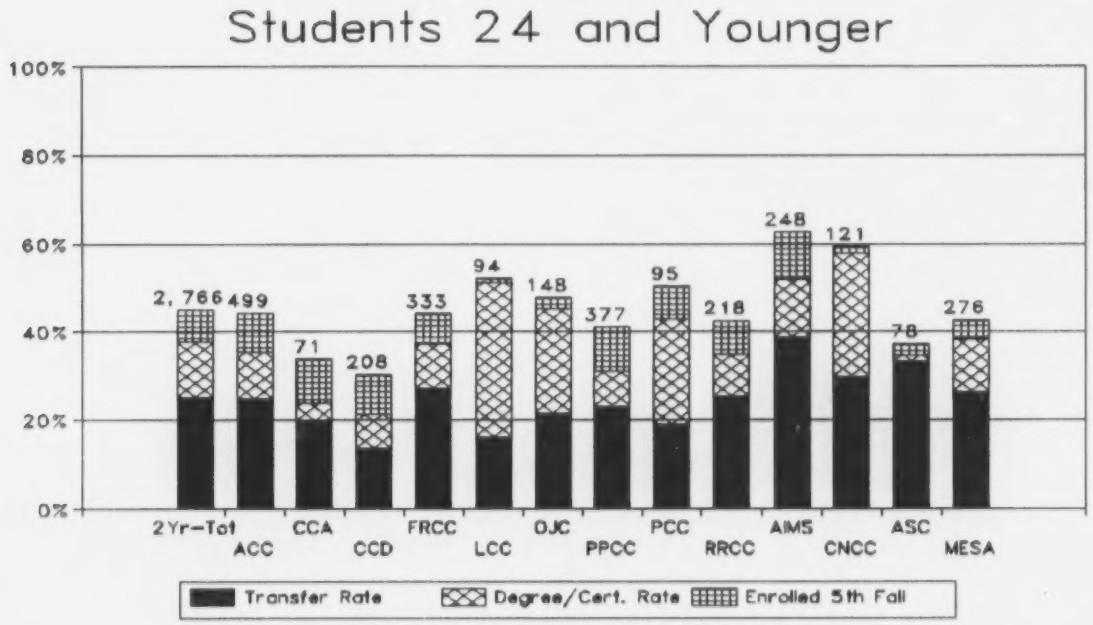
Figure 3
Components of Persistence/Completion[1]
by Gender

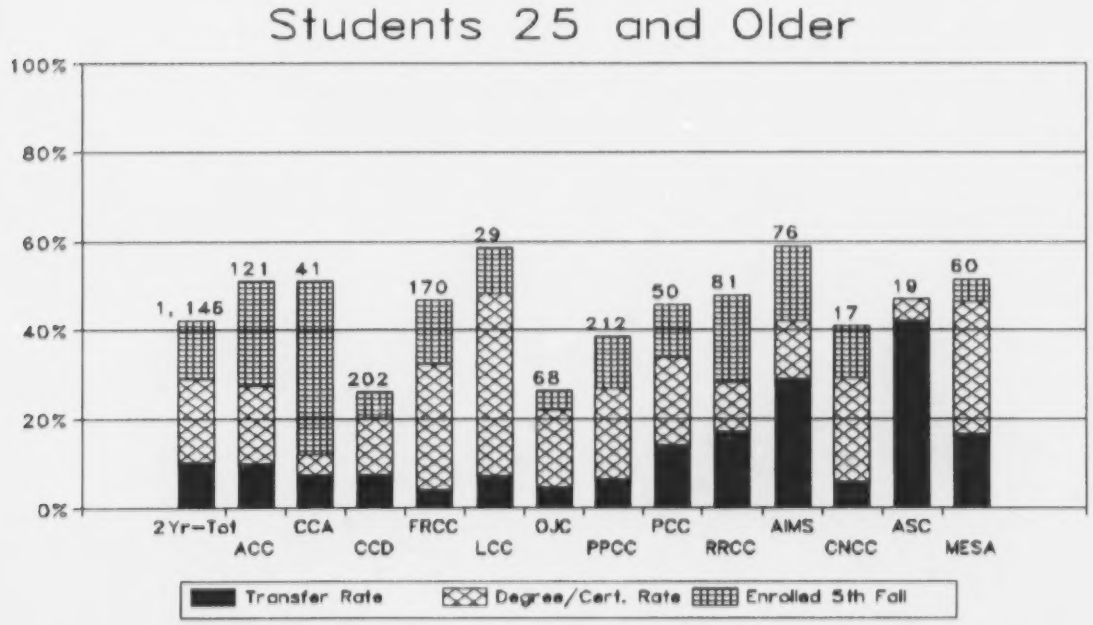




[1]Based on first-time, in-state students at Colorado public community colleges in fall 1986 attempting at least 12 credit hours at their initial institution; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

Figure 4
Components of Persistence/Completion[1]
by Age Category





[1]Based on first-time, in-state students at Colorado public community colleges in fall 1986 attempting at least 12 credit hours at their initial institution; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

III. COMPLETION/PERSISTENCE RATES, FOUR-YEAR SECTOR

SUMMARY

This section provides an analysis of four-year completion rates for students in the public four-year institutions in Colorado. The analysis is similar to that done for community college students in the previous section, in this case data from the Cohort Tracking System is used to follow fall 1986 first-time, freshmen starting in a four-year degree program for five years (through fall 1990). Some results from this analysis include:

- the completion rate[1] after four years was 19.1%;
- 31.4% were still enrolled at their initial institution in fall 1990;
- 13.3% had transferred to another institution by fall 1990;
- 36.2% were no longer enrolled at a Colorado public institution in fall 1990 and had not received a degree;
- the total completion/persistence rate was 63.8%;
- completion/persistence rates ranged from 45.1% to 76.5% -- the percent receiving a bachelor's degree after four years ranged from 6.6% to 33.2%;
- most minority groups had lower completion/persistence rates than Whites (65.0%), the rate for Blacks was 44.9%, for Hispanics, 55.1%, and for Native Americans, 47.2%, the one exception was Asians, who had a 68.0% completion/persistence rate; and
- there was very little difference between the overall completion/persistence rates by gender (63.6% for males compared to 64.0% for females), females were, however, more likely to complete a degree after four years, 22.9% versus 15.1% for males.

Caution must be used in interpreting this data, especially since the number of individuals is very small for some groups. For example, there were only 53 Native Americans out of 9,029. It will also be important to compare this data to similar data for fall 1987 once fall 1991 data is available to see if the results are similar or if there is a wide variation across the groups. Completion rates after five, six, and seven years will also be important factors once that many years of data are available.

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[1]The percent of first-time freshmen starting in fall 1986 receiving degrees by spring 1990, students who did not graduate until summer term, 1990 are not included.

CALCULATION OF COMPLETION RATE

The percent of entering, first-time freshmen completing a degree after four years is computed as of spring 1990. Data from the University of Colorado at Boulder indicates that about 20% of the potential spring graduates every year do not actually receive their degree until the summer. Currently, degree completion data is collected by fiscal year, so summer 1990 graduates will be reported as part of the FY 1991 graduation file. An institution with a 20% completion rate might show a 24% rate if the graduates for the summer term were included.

Once this problem was identified, the Commission's Data Advisory Group agreed to start reporting the term that a degree was awarded. In the future, completion data will be computed through summer terms. This will more accurately reflect the length of time to graduation and will also be more consistent with national standards for calculating completion rates.

COMPLETION/PERSISTENCE RATE

In addition to completion rate, two other outcomes are tracked, the percent enrolled in the fifth fall (fall 1990 for the fall 1986 class), either at the initial institution (continued enrollment rate) or at another institution (transfer rate). These persistence measures are an indication of progress toward a degree. National studies, as well as internal studies from Colorado institutions, show that many students take more than four years to graduate, in fact, there are indications that tracking may be necessary for seven or more years before most entering students have either graduated or left the system.

The sum of the three rates is referred to as a completion/persistence rate, and is an indication of progress toward a degree. When additional years of data are available, the measures will be expanded to show four-year, five-year, six-year, and seven-year rates.

DESCRIPTION OF THE DATA

The data used for this study included all first-time, degree-seeking freshmen at Colorado public four-year colleges and universities in fall 1986. Students entering as four-year program students at Adams State College and Mesa State College were also included[1]. The primary analysis group is all in-state freshmen enrolled full-time (twelve or more credit hours) in their first term. Enrollment is tracked from fall 1986 through fall 1990 and degree completion is tracked through spring 1990.

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[1]Therefore, Adams State College and Mesa State College show up in both the community college transfer rate and four-year college completion rate analyses, but different groups of students are included in each section.

The fall 1986 freshman class is summarized in Attachment 4, where it is also categorized by ethnicity and gender. The attachment shows the number of students in each subcategory in total, and for each institution. There were 12,795 first-time freshmen in fall 1986, of which 77.9% were in-state, leaving 9,966. Of these, 91.2% were full-time, leaving 9,088. Finally, students with missing demographic data on the data file were eliminated, leaving 9,029 students for the actual analysis.

RESULTS

About 30% of the fall 1986 freshmen were excluded from the analysis (part-time students, out-of-state students, and students with missing ethnicity or gender on the data files). Table 3 shows the completion/persistence rates by residency and attendance status for the total fall 1986 freshman class. The completion/persistence rate for the total group was 58.8%, with 18.8% receiving a bachelor's degree, 29.6% still enrolled at their initial institution, and 10.5% transferred. This overall rate is slightly higher for in-state freshmen (61.2%) and lower for out-of-state freshmen (50.4%); this difference is due to a much smaller likelihood of transfer by out-of-state freshmen (1.8% versus 13.0%), the degree completion rate after four-years is higher for out-of-state freshmen, 22.5% versus 17.7%.

The effect of full-time versus part-time status in the initial term is quite large. For in-state freshmen, the completion/persistence rate of part-time freshmen is almost half the rate of those who are full-time, 35.2% versus 63.8%. This difference is primarily due to differences in completion rates, 2.7% versus 19.1%; part-time status in the first term reduces the chance of completing degree requirements in only four years. The rates of continued enrollment and transfer for part-time freshmen are lower than that of full-time, but not by as great a difference, 21.8% of part-time freshmen are still enrolled in the fifth fall, compared to 31.4% of full-time freshmen; 10.7% of part-time freshmen have transferred in the fifth fall, compared to 13.2% of full-time freshmen.

Table 4 presents the rates, by subcategory, for the 9,029 full-time, in-state freshmen and Figures 5 through 7 display this data graphically. As in the graphs for the transfer rate analysis, each graph consists of a stacked bar that shows the three components of the completion/persistence rate: percent completing a bachelor's degree on the bottom, continued enrollment at initial institution in the fifth fall in the middle, and transfer to another institution in the fifth fall on the top. The total height of each bar represents the completion/persistence rate. The total number of individuals in each category is printed at the top of each bar and the total data for all students is given in the left most bar.

Overall

Figure 5 compares the overall rates by institution, and statewide by ethnicity and gender. There is a wide variation between institutions, ranging from high[1] completion/persistence rates of 76.5% and 72.3% at the University of Colorado at Boulder (UCB) and Colorado State University (CSU) to lows of 48.1% and 45.1% at Metropolitan State College of Denver (MSC) and Mesa State College (MESA). There are also differences between institutions in the component measures. For example, while UCB and CSU have similar total completion/persistence rates, the four-year graduation rate for UCB is 33.2% compared to 21.4% for CSU -- it is very likely that once a fifth year of graduation data is available that CSU and UCB will have similar graduation rates, but UCB students are more likely to complete after only four years. Urban schools, with large adult non-residential components, show lower graduation rates, for example, MESA, MSC, the University of Colorado at Colorado Springs (UCCS), and the University of Colorado at Denver (UCD).

Overall by Ethnic Group

The top graph on the second page of Figure 5 shows the overall rates by ethnicity. There are large differences by ethnic group. Blacks have much lower completion/persistence rates than Whites (44.9% versus 64.0%). This difference is even more striking in the completion rates, only 6.5% of Blacks complete a bachelor's degree after four years, compared to 20.1% of Whites. The data for Native Americans is very similar to that for Blacks, the overall completion/persistence rate is 47.2%, with 7.5% graduating after four years.

The results for Hispanics are a little higher, but they are still significantly lower than for Whites. The completion/persistence rate for Hispanics is 55.1%, with 11.2% receiving bachelor's degrees after four years. Only Asians have higher rates than Whites, 22.1% of Asians complete a bachelor's degree after four years, and their overall completion/persistence rate is 68.0%.

Overall by Gender

The overall completion/persistence rates by gender are almost identical, 63.6% for males and 64.0% for females. As with transfer rates, however, there are differences within the components. Females are more likely to graduate after four years, 22.9% versus 15.1%,

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[1]The lack of social security numbers for some students at the Colorado School of Mines (CSM) in fall 1986 may have resulted in reduced completion/persistence rates, subsequent analyses for later years may show rates for CSM that are similar to those at UCB and CSU.

and males are slightly more likely to have transferred, 13.9% versus 12.6%. It is possible that the degree programs most often chosen by females are more likely to be completed in four years than the programs most often chosen by males. It is likely that the five and six year graduation rates for males and females will be similar.

By Institution and Ethnic Group

Completion/persistence bars by ethnic group for each institution[1] are graphed in Figure 6. The data in these charts can be used to compare the relative rates across institutions and to analyze differences in the components of the rates across institutions. Caution should be used, however, in interpreting the graphs by ethnic group since the small size of a group can lead to wide variations in rates, for example, one student out of 20 affects a rate by five percent.

The graph for Whites is very similar to the overall graph in Figure 5 since Whites are a large majority of the total. The data for Hispanics shows a different pattern -- Hispanics are much less likely than Whites to graduate after four years, but that at some schools the overall completion/persistence rate is similar. No Hispanics are reported as having received a bachelor's degree after four years at the Colorado School of Mines (CSM) and the University of Colorado at Denver (UCD). At CSM, however, the total completion/ persistence rate for Hispanics is similar to that for Whites, 58.8% versus 62.8%. There is a greater difference in completion/persistence rates for Hispanics and Whites at UCD (47.1% versus 56.8%), but the difference is mostly a result of much lower transfer rates for Hispanics (5.9% versus 17.2%), the continued enrollment rate at UCD for Hispanics is much higher than the rate for Whites (41.2% versus 25.5%).

Other institutions also show completion/persistence rates for Hispanics that are similar to those for Whites, for example, Adams State College (ASC), the University of Colorado at Colorado Springs (UCCS), the University of Southern Colorado (USC), and Western State College (WSC). In these cases, it is possible that the long term graduation rates for Hispanics may be comparable to those for Whites.

It is more difficult to draw conclusions across institutions for Blacks and Asians since less than half of the institutions have at least ten students in these groups. There were only five institutions with ten or more Black in-state, full-time, first-time, degree-seeking freshmen in fall 1986, and only six with ten or more Asians. As with the overall data, the results for Blacks are significantly lower than for Whites in all cases; the results for Asians tend to be comparable to those for Whites.

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[1]Bars are only graphed when there are at least 10 students in a group. Native American students are not graphed since only one institution had at least 10 Native American students.

By Institution and Gender

Finally, Figure 7 compares the completion/persistence bars by gender for each institution. As with the overall graph in Figure 5, the total rates tend to be very similar for males and females, with females more likely to complete a degree in four years and males more likely to transfer.

FUTURE STEPS

As with the transfer rate analysis in the previous section, the completion/persistence rates reported here should be treated more as a baseline for future comparisons than as a relative comparison between institutions. In particular, it will be very important to examine the graduation rates after five, six, and seven years. Some of the differences between institutions, ethnic groups, and gender may disappear when more years of data are available. It will also be very important to compare rates for additional years to see if the results are consistent.

Age was not considered in this analysis as it was in the transfer rate analysis in Section II, but it may be an important variable, especially for the urban institutions such as MSC, UCD, UCCS, and MESA. That factor will be included in future analyses. In addition, there seems to be a relationship between admission tiers and completion/persistence, the more selective institutions tend to have the higher overall rates. Future analyses will examine the effect of previous academic preparation to see if it explains some of the observed differences between ethnic groups and institutions.

Nevertheless, the data in this section points out significant differences in the completion/ persistence rates for ethnic minorities. This is an area of great concern to the Commission and progress must be made if these populations are to be adequately served by the state.

Table 3

Four-Year Completion/Persistence Rates
for
Entire Fall 1986 Class
By Residency and Attendance Status

Group	N	Completion/ Persistence	Percent Bach's Deg.	% Enrolled Fall 1990	% Transfer Fall 1990
4Yr Total	12,795	58.8%	18.8%	29.6%	10.5%
In-State	9,966	61.2%	17.7%	30.6%	13.0%
Full-Time	9,088	63.8%	19.1%	31.4%	13.2%
Part-Time	878	35.2%	2.7%	21.8%	10.7%
Out-of-State	2,829	50.4%	22.5%	26.0%	1.8%
Full-Time	306	51.4%	23.3%	26.3%	1.8%
Part-Time	139	30.2%	7.9%	20.1%	2.2%

Table 4

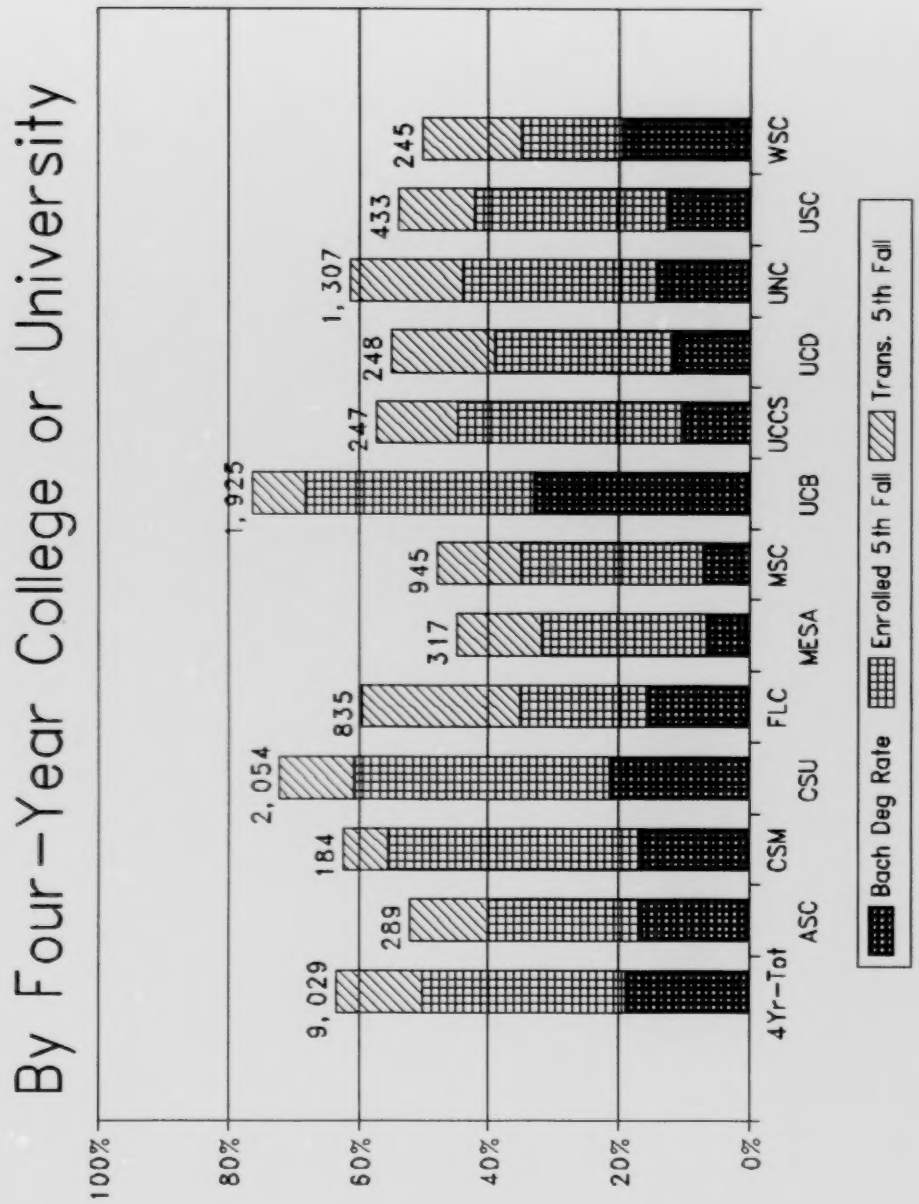
Four-Year Completion/Persistence Rate Analysis
for
Fall 1986 First-Time, In-State Freshmen
at Colorado Public Colleges and Universities
Who Were Full-Time in Their First Term

Group	N[1]	Completion/ Persistence[2]	Percent Bach's Deg.	% Enrolled Fall 1990	% Transfer Fall 1990
4Yr-Tot -- State Total for Four-Year Programs					
Ethnicity					
Black	185	44.9%	6.5%	25.9%	12.4%
Nat Amer	53	47.2%	7.5%	22.6%	17.0%
Asian	281	68.0%	22.1%	32.4%	13.5%
Hispanic	695	55.1%	11.2%	31.2%	12.7%
White	7,815	65.0%	20.1%	31.6%	13.3%
Gender					
Male	4,422	63.6%	15.1%	34.6%	13.9%
Female	4,607	64.0%	22.9%	28.4%	12.6%
Total	9,029	63.8%	19.1%	31.4%	13.3%

[1]Non-Resident Aliens and students with missing ethnicity or gender are excluded. (See Attachment 2).

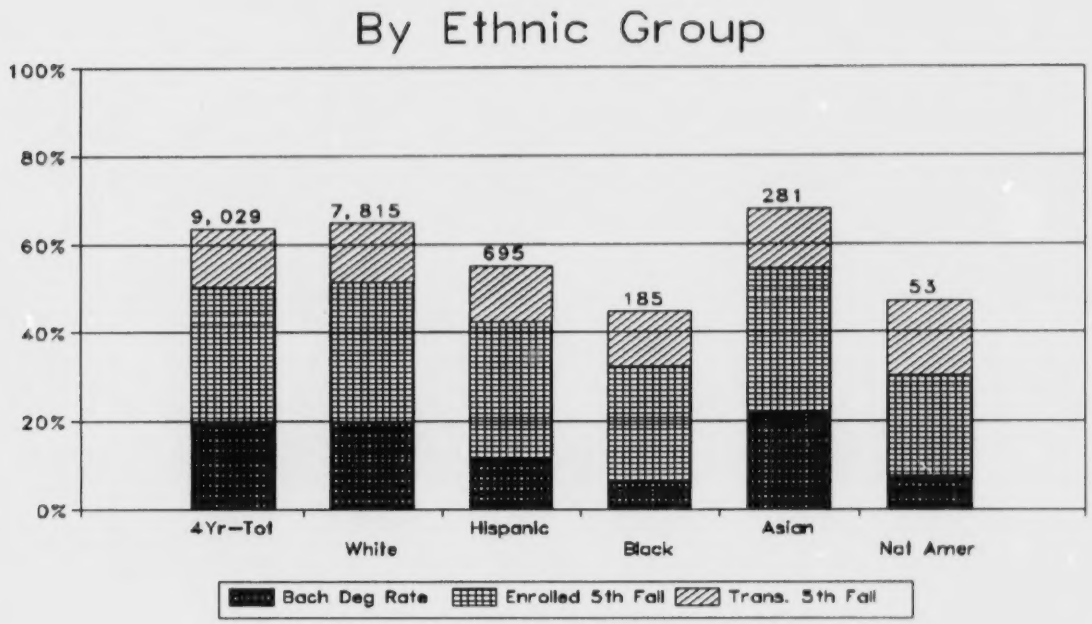
[2]Rates are not computed for subcategories with fewer than 10 students.

Figure 5
Components of Completion/Persistence[1]
by Overall Summaries



[1]Based on first-time, in-state freshmen at Colorado public four-year colleges and universities in fall 1986 attempting at least 12 credit hours in their first term; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

Figure 5 (Continued)



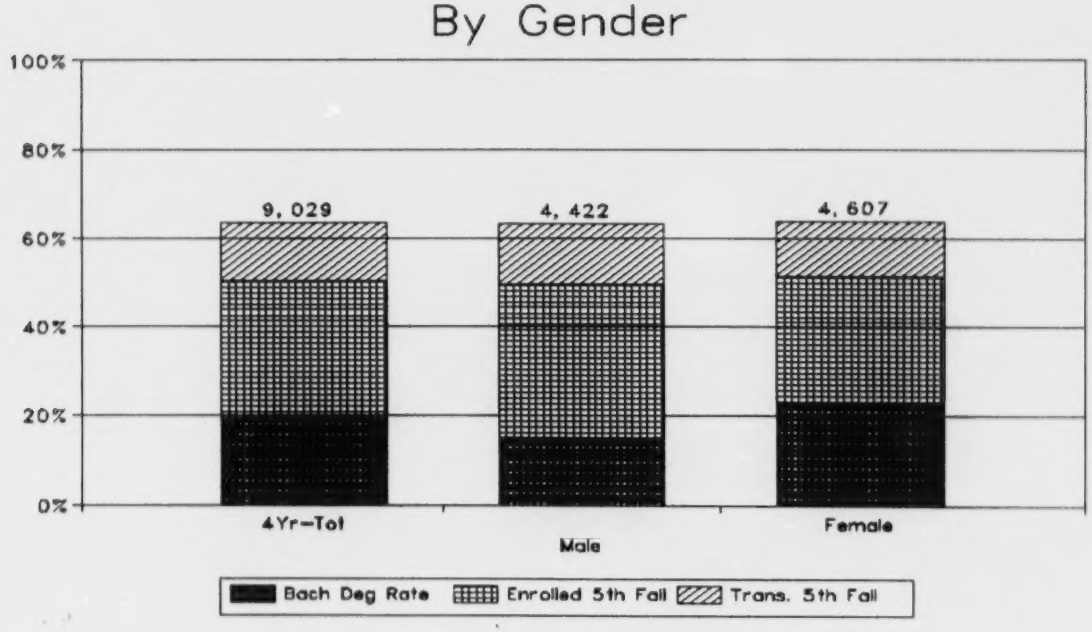
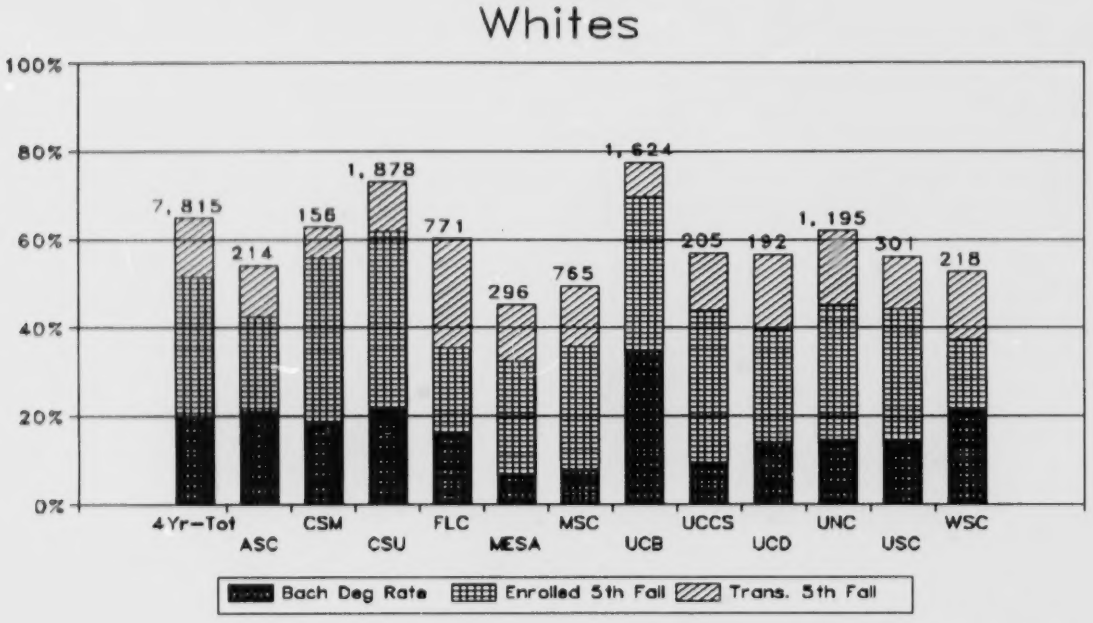
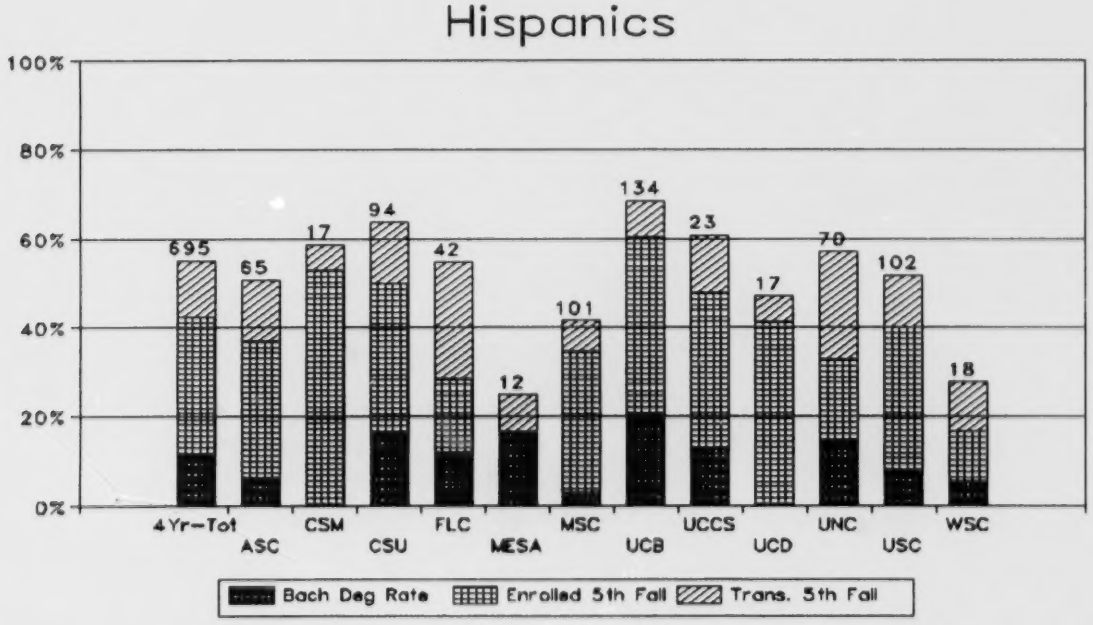


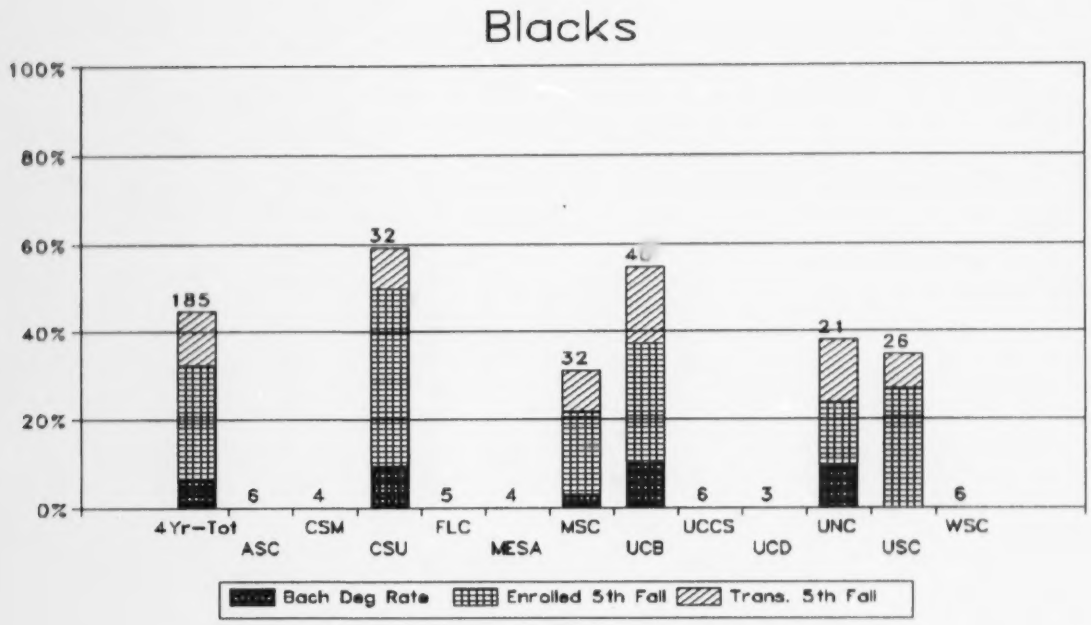
Figure 6
Components of Completion/Persistence[1]
by Ethnicity





[1]Based on first-time, in-state freshmen at Colorado public four-year colleges and universities in fall 1986 attempting at least 12 credit hours in their first term; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

Figure 6 (continued)



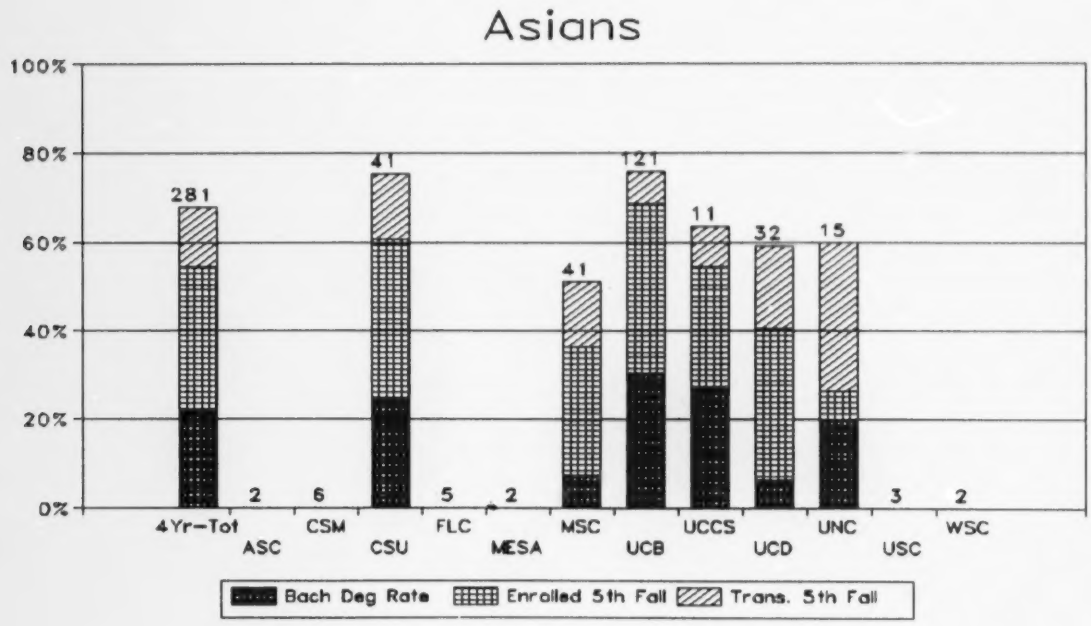
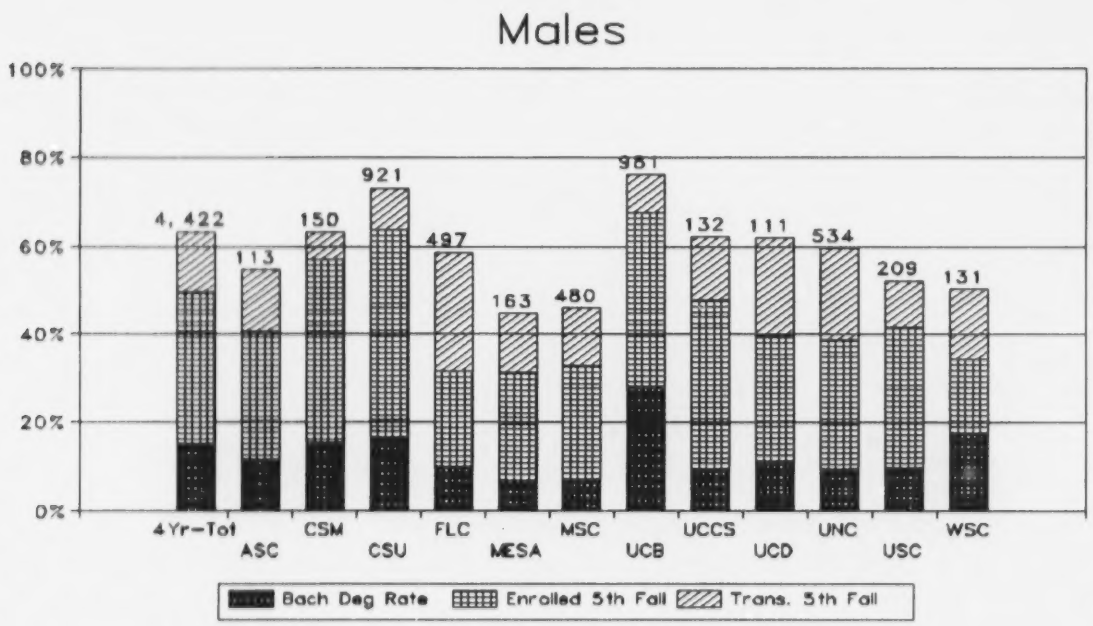
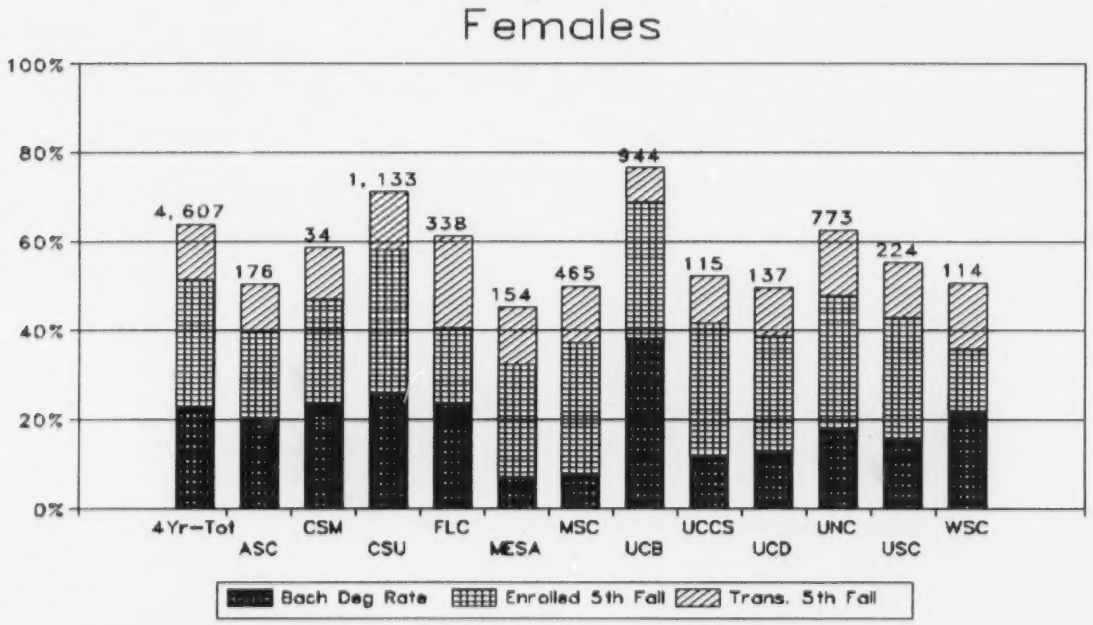


Figure 7
Components of Completion/Persistence[1]
by Gender





[1]Based on first-time, in-state freshmen at Colorado public four-year colleges and universities in fall 1986 attempting at least 12 credit hours in their first term; all non-resident aliens and all students with missing ethnicity and missing gender are excluded.

IV. FALL-TO-FALL PERSISTENCE RATES

SUMMARY

This section compares fall-to-fall persistence rates over the last four years[1], for both community colleges and two-year programs, and four-year colleges and universities. This analysis serves as an indication of possible future improvements in persistence/completion rates for the two-year sector and completion/persistence rates in the four-year sector. The size of the entering classes for each year is also shown. Fall-to-fall rates are only reported for in-state students that were full-time (twelve credit hours or more) in their first term.

Two-Year Sector:

- total class size increased from 3,091 in fall 1986[2] to 5,606 in fall 1989, but fall-to-fall persistence remained fairly constant, averaging about 56.0%;
- fall-to-fall persistence rates for ethnic/minority groups are lower than the rates for Whites, for example, the average rate for Whites was about 58%, compared to 39%, 50%, 55%, and 48% for Blacks, Native Americans, Asians, and Hispanics, respectively;

Four-Year Sector:

- there was about a 10% increase in total class sizes from fall 1986 to fall 1989 (9,029 to 10,054), but the fall 1989 class was actually a little smaller than in fall 1988 (10,160);
- there was a small increase in the fall-to-fall rates, from 80.8% to 83.3%;
- the fall-to-fall persistence rates for most ethnic groups are lower than the rates for Whites, the only exception is Asians, who have slightly higher rates, the average rate for Whites was 83%, compared to 70% for Blacks, 71% for Native Americans, 84% for Asians, and 74% for Hispanics;

---

[1]Fall 1986 to fall 1987; fall 1987 to fall 1988; fall 1988 to fall 1989; and fall 1989 to fall 1990.

[2]The fall 1986 data does not include data for Colorado Mountain College, Morgan Community College, Trinidad State Junior College, and Northeastern Junior College; these schools are included starting with fall 1987.

CALCULATION OF FALL-TO-FALL RATES

In this analysis, the persistence of students from one fall to another is calculated as the number of students in a class that are still enrolled in the system or who have received a certificate by the next fall. Therefore, fall-to-fall persistence, as calculated in this analysis, is a system-wide measure -- transfer to another institution, or completion of a certificate (relevant in the two-year sector), is treated identically to continued enrollment at the initial institution.

DESCRIPTION OF THE DATA

The data for the fall-to-fall analysis follow similar selection conditions as used in the two-year and four-year analyses. For the two-year institutions and the two-year programs at Adams State College and Mesa State College, all first-time, in-state undergraduates are selected (includes first-time freshmen and first-time non-degree seeking students). The data is then limited to full-time students (twelve or more credit hours) in their first term. Data for students with missing ethnic or gender data on the data files is eliminated.

This will be a smaller group than used in the two-year persistence/completion rate analysis since that analysis also included students that accumulate twelve or more hours over four years -- 821 students are added when multiple time periods are used to accumulate twelve or more hours.

The selection criteria for the four-year data is the same as that used for the completion/persistence rate analysis: all first-time freshmen that are in-state and full-time in their first term. The fall 1986 data is identical in the fall-to-fall analysis and the completion/persistence analysis.

RESULTS

Community Colleges and Two-Year Programs

The statewide data by ethnic group and gender is displayed in Table 5. Appendix 6 provides the data for each institution. The fall-to-fall rates by institution and ethnic group for the four comparison years are graphed in Figures 8 and 9. Side by side bars are used to compare the rates for each year.

Figure 8 shows some variation across institution and small increases over time. The local district colleges tend to have higher rates than the state average. The Community College of Denver (CCD) shows a large increase in fall-to-fall rates after the first year, suggesting that there may have been data problems with the fall 1986 data and that the relatively low

Table 5
Class Sizes
and
Fall to Fall Within System Persistence by Institution
For First-Time, In-State, Full-Time Students
at Community Colleges and Two-Year Programs
(Students With Missing Gender and Ethnicity Excluded)

Group		Fall 86[1]	Fall 87	Fall 88	Fall 89
2-Yr-Tot -- Community College and 2-Year Program Totals					
Ethnicity					
Black	N:	115	179	165	193
	%:	41.7%	36.3%	40.6%	36.3%
Nat Amer	N:	31	44	72	64
	%:	48.4%	43.2%	47.2%	62.5%
Asian	N:	89	108	90	113
	%:	52.8%	47.2%	63.3%	55.8%
Hispanic	N:	400	577	808	879
	%:	45.5%	47.8%	51.2%	47.0%
White	N:	2,456	3,786	3,970	4,357
	%:	56.0%	59.7%	58.9%	58.1%
Gender					
Male	N:	1,518	2,328	2,529	2,734
	%:	54.9%	56.1%	56.1%	55.3%
Female	N:	1,573	2,366	2,576	2,872
	%:	53.0%	57.8%	57.8%	55.8%
Total					
	N:	3,091	4,694	5,105	5,606
	%:	54.0%	56.9%	57.0%	55.6%

[1]Due to data problems, data for four community colleges are excluded from the fall 1986 data: Colorado Mountain College, Morgan Community College, Trinidad State Junior College, and Northeastern Junior College. These institutions are included in all other years.

Figure 8
Within System, Fall to Fall Persistence
for 1st-Time, In-State, Full-Time Students
by Institution

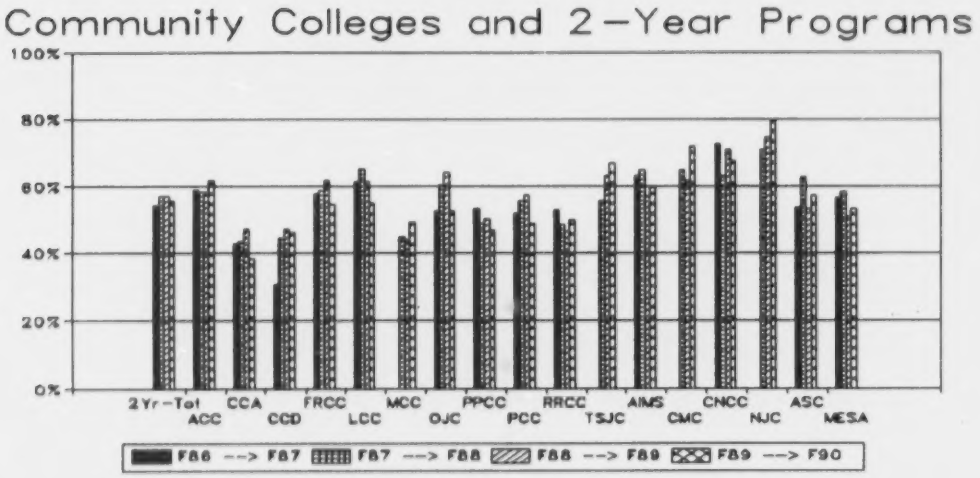
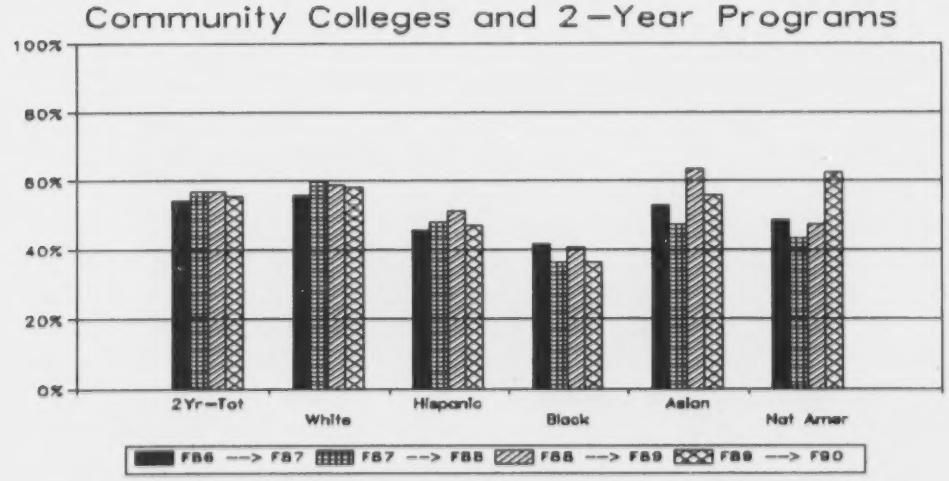


Figure 9
Within System, Fall to Fall Persistence
for 1st-Time, In-State, Full-Time Students
by Ethnic Group



persistence/completion rates for CCD in Figure 1 may not continue when future years of data are analyzed.

Figure 9 shows that there are fairly large differences by ethnic group in fall-to-fall rates, and that these differences are fairly consistent over time. Only Native Americans show a large increase in fall 1989, and given the small number of students in this group, this increase may not necessarily hold when fall 1990 data is available.

Four-Year Colleges and Universities

The statewide data by ethnic group and gender is displayed in Table 6. Appendix 7 provides the data for each institution. The fall-to-fall rates by institution and ethnic group for the four comparison years are graphed in Figures 10 and 11. Side by side bars are used to compare the rates for each year.

Figure 10 shows the fall-to-fall rates for four-year institutions. These rates average about 25% higher than the rates for community colleges, around 80% compared to about 55%. The figure shows differences across institution and some increases over time. Large increases shown at the Colorado School of Mines (CSM) are indicative of improvement in the reporting of social security numbers for their students, future calculations of completion/persistence data for CSM should be similar to that computed for the University of Colorado at Boulder (UCB) and Colorado State University (CSU).

Improvement is also shown in fall-to-fall rates at other institutions, suggesting that they may be doing a better job retaining their students. Notable examples are Adams State College (ASC), from 72.3% to 81.3%; CSU, 86.8% to 92.1%; and the University of Colorado at Denver (UCD), 73.8% to 79.8%. Because there was also a small reduction in fall-to-fall rates at a couple of institutions, future analyses will be necessary to determine if these are normal fluctuations in the data or if a problem is developing.

Figure 11 shows the fall-to-fall rates by ethnic group. Asians have the highest rates, followed by Whites. Hispanics, Blacks, and Native Americans have lower rates, but these rates are increasing, especially when comparing fall 1986 to fall 1989. It will be important to see if this increase continues in future years or if it is a statistical fluctuation due to small sample sizes.

FUTURE STEPS

The fall-to-fall rates in this analysis are system wide rates. Different patterns may be found if within institution rates were computed instead. Future analyses will examine this possibility. Fall-to-fall rates have the advantage of requiring only two years of data while the earlier analyses required five years of data. Therefore, trends can be picked up much

quicker by looking at fall-to-fall rates. It may be possible to develop a prediction of future persistence and completion rates from fall-to-fall rates. In addition, fall-to-fall rates are useful as an outcome measure when evaluating the effect of different prediction variables, for example, the effect of previous academic preparation.

Table 6
Class Sizes
and
Fall to Fall Within System Persistence
For First-Time, In-State, Full-Time Students
at Four-Year Colleges and Universities
(Students With Missing Gender and Ethnicity Excluded)

Group		Fall 86	Fall 87	Fall 88	Fall 89
4-Yr-Tot -- Four-Year College and University Totals					
Ethnicity					
Black	N:	185	205	245	266
	%:	68.1%	72.7%	69.8%	71.1%
Nat Amer	N:	53	47	67	70
	%:	71.7%	66.0%	68.7%	77.1%
Asian	N:	281	310	353	335
	%:	84.0%	83.2%	85.3%	85.4%
Hispanic	N:	695	824	935	995
	%:	73.1%	73.3%	73.7%	77.1%
White	N:	7,815	8,469	8,560	8,388
	%:	81.8%	81.2%	82.7%	84.4%
Gender					
Male	N:	4,422	4,752	4,928	4,875
	%:	80.1%	79.3%	80.3%	82.6%
Female	N:	4,607	5,103	5,232	5,179
	%:	81.5%	81.4%	82.7%	84.0%
Total					
	N:	9,029	9,855	10,160	10,054
	%:	80.8%	80.4%	81.5%	83.3%

Figure 10
Within System, Fall to Fall Persistence
for 1st-Time, In-State, Full-Time Students
by Institution

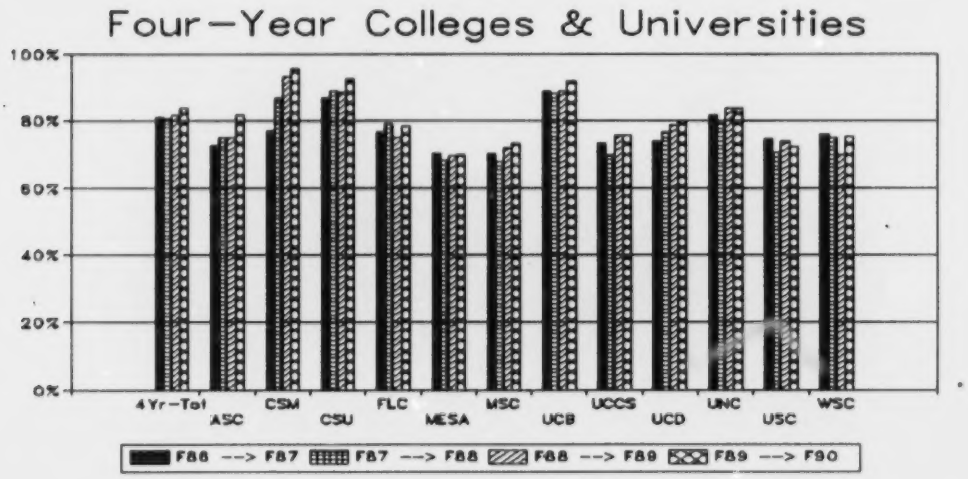
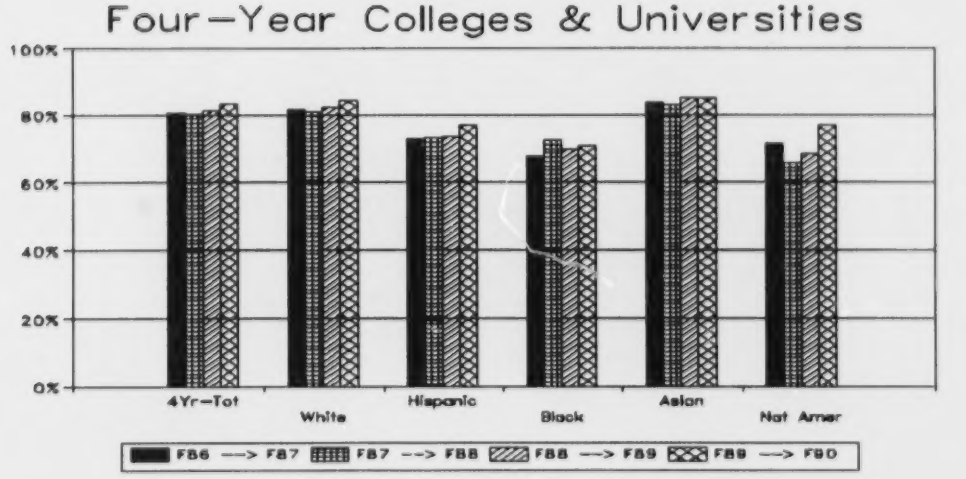


Figure 11
Within System, Fall to Fall Persistence
for 1st-Time, In-State, Full-Time Students
by Ethnic Group



V. COMPARISONS TO NATIONAL DATA

Currently available national data is not directly comparable to the Colorado data in this report. Nevertheless, it does provide a context for evaluating Colorado data. The following table lists some comparisons. The Colorado data is very comparable to national data.

Comparison Measures	National Data	Colorado Data
Community College Transfer Measures	20% of 1980 high school graduates who entered two-year institutions transferred to four-year institutions within four years[1]	20.7% transfer rate for the fall 1986 class[2]
Blacks	10% of Blacks transferred	10.6% transfer rate for Blacks in fall 1986 class
Hispanics	16% of Hispanics transferred	16.1% transfer rate for Hispanics in fall 1986 class
Four-Year College and University Baccalaureate Graduation Rates	53% of 1980 freshmen entering four-year colleges as full-time freshmen received a bachelor's degree six years later[3] in Tennessee, for the fall 1984 class, 38% graduated after six years (12% within four years, 18% took five years, and 8% took six years)[4]	only four years of graduation data are available for the fall 1986 class, but the completion/ persistence rate after four years for that class was 63.8%[5] 19.1% of the fall 1986 class graduated after four years
Blacks	33% of all 1980 Blacks received a bachelor's degree after six years in Tennessee, 23% of Blacks graduated after six years, compared to 40% for Whites	44.9% of Blacks completed or were persisting after four years 6.5% graduated after four years

Comparison Measures	National Data	Colorado Data
Hispanics	31% of all 1980 Hispanics received a bachelor's degree after six years	55.1% of Hispanics completed or were persisting after four years
Persistence After One Year	During the first half of the 1980s, the percentage of freshmen still enrolled after one year was 78%[6] for the national 1986 class, 81.9% of Whites were still enrolled one year later[7]	Ranges from 81% to 83% for students starting at four-year colleges in Colorado[8]
Blacks	72.7% of Blacks in 1986 class still enrolled after one year	71.1% of Colorado Black four-year classes enrolled after one year
Hispanics	79.7% of Hispanics in 1986 class still enrolled after one year	77.1% of Colorado Hispanic four-year class enrolled after one year

1. *College Going, Persistence, and Completion Patterns in Higher Education: What Do We Know?*, Cecilia Ottinger, Research Briefs, Volume 2, Number 3, 1991, Division of Policy Analysis and Research, American Council on Education, Washington, D.C.

2. See Table 2.

3. Ottinger, 1991.

4. Cited by Ottinger, 1991.

5. See Table 4.

6. *The Condition of Education, 1990, Volume 2, Postsecondary Education*, page 24.

7. *The Condition of Education, 1990, Volume 2, Postsecondary Education*, page 28.

8. See Table 6.

VI. CONCLUDING COMMENTS

This study completes the second report by the Commission on statewide persistence and completion rates. The first report, completed August 31, 1990, *Case Study for Ford/SHEEO Project on Systemwide Database and Institutional Support for Minority Student Achievement*, reported on only three years of data, fall 1986 through fall 1988. This report includes enrollment data through fall 1990 and degrees granted data through spring 1990.

This report identifies several areas of concern for Colorado. For example, a 20% rate for completing a bachelor's degree after four years, while consistent with national data, is contrary to the public perception that most students will complete a four-year degree at a four-year institution after four years. It is obviously important to look at graduation rates after five and six years, but one can still ask if a 20% rate after four years is acceptable and whether statewide goals should be set for improvements in this rate.

In addition, the significantly lower graduation rates for ethnic minorities is also an area of great concern. If one is concerned about only a 20% rate after four years for Whites, then a 6.5% rate for Blacks, a 7.5% rate for Native Americans, and an 11.2% rate for Hispanics raises even greater concerns. There are obviously still problems that Colorado institutions must address to meet the needs of ethnic minority students.

This report also identifies concerns about students who start their education at community colleges. While it is true that many students attend community colleges for reasons other than transfer to a four-year institution or completion of a certificate or degree, a 44% transfer/persistence/completion rate after four years seems very low, especially when one considers that the rate is computed only on the 40% of the total class that accumulated at least twelve credit hours. The majority of students in Colorado that attend a community college do not complete a certificate or degree and are not still enrolled four years later.

As with bachelor's degree graduation rates, the transfer, persistence, and completion rates for community college students also vary greatly by ethnic minority group. Only about a quarter of the Black students (26.1%) and a third of the Hispanic students (35.5%) that accumulate twelve credit hours at a community college transfer, persist, or complete after four years.

The fall-to-fall persistence rates in this report are also not greatly encouraging. There has not been a clear pattern of improvement in the persistence of full-time, first-time students to the second fall over the last four years, and the differences by ethnic minority group are present in these rates as they are in the other rates reported. Much progress needs to be made in Colorado, as is the case also in the rest of the nation, if

minority students are to start to complete higher education in the same proportions as White students.

There were some methodological concerns with the first report -- for example, all students, regardless of full-time or part-time status and state residency status, were included. This report focuses primarily on Colorado resident, full-time students. In addition, statistical indices were developed in the first report that were useful in identifying institutions with exemplary programs, but which were not as useful in setting benchmarks for institutions to be used for evaluating future progress. This report calculates rates that can be used as benchmarks to compare institutional change over time. It is the setting of such benchmarks that may be the main value of the current report.

IMPLICATIONS FOR FUTURE STUDY

While this report provides useful data about persistence and completion rates in Colorado, it also raises many additional questions and suggests several future analyses:

1) This report focuses on transfer rates from community colleges and reports degree completion rates only for students who don't transfer, a future report will separately compute completion rates from community colleges for both vocational and academic programs.

2) Although measures of student intent are difficult to obtain, future reports will examine the transfer and completion rates of community college students enrolled in vocational versus academic programs.

3) This report does not examine what happens to students after they transfer; future studies will track students after transfer to see if they continue on to complete degrees.

4) While this report focuses on students that start out as full-time students, some of these students will drop down to part-time status after their first term, and other students may "stop out" for a year and then return to complete their degree. Further analyses will be done to look at these factors and their impact on completion rates.

5) Other explanatory factors, such as academic ability and socioeconomic status, will be examined in future studies. Examples include the effectiveness of the CCHE Admission Index in predicting persistence and completion, or the awarding of financial aid as a predictor of persistence and completion.

Attachment 1

Comments Regarding the Data Used in This Report

The data used in this report is from Student Unit-Record Data System (SURDS) files submitted by the Colorado colleges and universities since fall 1986. All data has been edited and certified by the institutions as being as accurate as possible. The capability of tracking groups of students over time and across institutions was provided by the Commission's Cohort Tracking System, a set of programs developed as part of a project started in 1990 and partially funded by a grant from the Ford Foundation and the State Higher Education Executive Officers (SHEEO) Association.

While great care has been used in preparing this report and using the data provided by the institutions, several cautions should be kept in mind when reading this report. First of all, a persistence and completion analysis reflects what was happening at an institution four or more years in the past. It does not necessarily reflect current programs or changes that an institution may have made to correct past deficiencies or to enhance past successes.

This report also presents data that leads to comparisons between institutions, such comparisons, however, are not always appropriate. Institutions have different roles and missions and serve different clientele; rates in this report should primarily be used as benchmarks for evaluating future changes within institutions rather than for comparisons between institutions.

There are also problems with the data that must be kept in mind. This report looks at students that first enroll in the fall term. Students that start at other times of the year, such as summer or spring, are not included. Persistence is also measured as continued enrollment in a subsequent fall term, students that may have "stopped out" for that term but who come back the next spring will not be counted in this report. Inconsistencies in reporting from institutions and changes or errors in important social security numbers will also lead to underestimates of actual persistence and completion rates. Students that transfer to private institutions or to public institutions outside of Colorado will also not be included in this analysis and will appear to have failed to persist or complete a degree. The small number of students for some minority groups will also lead to greater error in the estimate of rates since the change in behavior of only one or two students can lead to large percentage changes, therefore the size of each group should always be considered when evaluating this data.

Finally, student intent cannot be fully accounted for in computing transfer, persistence, and completion measures. Most analyses are restricted to in-state students that first enroll

as full-time students or who accumulate at least twelve credit hours at their initial college[1], but there will still be students in this group who do not intend to pursue a degree or certificate; they may be enrolling for personal reasons that are fully met by the college but are not reflected in this analysis.

The following institutional abbreviations are used in this report:

State System Community Colleges

ACC	Arapahoe Community College
CCA	Community College of Aurora
CCD	Community College of Denver
FRCC	Front Range Community College
LCC	Lamar Community College
MCC	Morgan Community College
OJC	Otero Junior College
PPCC	Pikes Peak Community College
PCC	Pueblo Community College
RRCC	Red Rocks Community College
TSJC	Trinidad State Junior College

Local District Colleges

AIMS	Aims Community College
CMC	Colorado Mountain College
CNCC	Colorado Northwestern Community College
NJC	Northeastern Junior College

Four-Year Colleges and Universities

ASC	Adams State College
CSM	Colorado School of Mines
CSU	Colorado State University
FLC	Fort Lewis College
MESA	Mesa State College
MSC	Metropolitan State College of Denver
UCB	University of Colorado at Boulder
UCCS	University of Colorado at Colorado Springs
UCD	University of Colorado at Denver
UNC	University of Northern Colorado
USC	University of Southern Colorado
WSC	Western State College

[1]In this study, this number is estimated rather than computed exactly since SURDS reports credits attempted rather than credits earned. In addition, spring and summer term data are not available before FY 90.

Attachment 2

Two-Year Persistence/Completion Rate Analysis by Institution

for
Fall 1986 First-Time, In-State Students
to Colorado Public Community Colleges
and Two-Year Programs[1]
Who Took 12 or More Credit Hours at Their Initial Institution

Group	N[2]	Persistence/ Completion[3]	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
ACC -- Arapahoe Community College					
Ethnicity					
Black	7	--	--	--	--
Nat Amer	5	--	--	--	--
Asian	17	58.8%	35.3%	11.8%	11.8%
Hispanic	28	35.7%	17.9%	10.7%	7.1%
White	563	46.0%	21.7%	12.4%	11.9%
Gender					
Male	305	44.9%	21.0%	15.4%	8.5%
Female	315	46.7%	22.5%	9.2%	14.9%
Age Group					
0 -- 24	499	44.5%	24.6%	11.0%	8.8%
25 -- HI	121	51.2%	9.9%	17.4%	24.0%
Total	620	45.8%	21.8%	12.3%	11.8%
CCA -- Community College of Aurora					
Ethnicity					
Black	22	36.4%	4.5%	9.1%	22.7%
Nat Amer	1	--	--	--	--
Asian	2	--	--	--	--
Hispanic	4	--	--	--	--
White	83	41.0%	19.3%	2.4%	19.3%
Gender					
Male	34	32.4%	17.6%	2.9%	11.8%
Female	78	43.6%	14.1%	5.1%	24.4%
Age Group					
0 -- 24	71	33.8%	19.7%	4.2%	9.9%
25 -- HI	41	51.2%	7.3%	4.9%	39.0%
Total	112	40.2%	15.2%	4.5%	20.5%

[1]Due to data problems, four community colleges are excluded from the fall 1986 cohort: Colorado Mountain College, Morgan Community College, Trinidad State Junior College, and Northeastern Junior College.

[2]Non-Resident Aliens and students with missing ethnicity or gender are excluded. (See Attachment 1).

[3]Rates are not computed for subcategories with fewer than 10 students.

Table 2 (Continued)

Group	N	Persistence/ Completion	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
CCD -- Community College of Denver					
Ethnicity					
Black	49	24.5%	8.2%	4.1%	12.2%
Nat Amer	10	20.0%	10.0%	0.0%	10.0%
Asian	37	24.3%	8.1%	8.1%	8.1%
Hispanic	93	22.6%	8.6%	5.4%	8.6%
White	221	32.6%	12.2%	14.5%	5.9%
Gender					
Male	155	25.8%	10.3%	8.4%	7.1%
Female	255	29.8%	10.6%	11.4%	7.8%
Age Group					
0 -- 24	208	30.3%	13.5%	7.7%	9.1%
25 -- HI	202	26.2%	7.4%	12.9%	5.9%
Total	410	28.3%	10.5%	10.2%	7.6%
FRCC -- Front Range Community College					
Ethnicity					
Black	10	10.0%	10.0%	0.0%	0.0%
Nat Amer	2	--	--	--	--
Asian	24	37.5%	0.0%	25.0%	12.5%
Hispanic	52	36.5%	15.4%	15.4%	5.8%
White	415	47.5%	21.0%	16.4%	10.1%
Gender					
Male	209	45.9%	23.0%	15.3%	7.7%
Female	294	44.6%	16.7%	17.0%	10.9%
Age Group					
0 -- 24	333	44.1%	27.0%	10.2%	6.9%
25 -- HI	170	47.1%	4.1%	28.2%	14.7%
Total	503	45.1%	19.3%	16.3%	9.5%
LCC -- Lamar Community College					
Ethnicity					
Black	1	--	--	--	--
Nat Amer	2	--	--	--	--
Asian	0	--	--	--	--
Hispanic	16	43.8%	0.0%	43.8%	0.0%
White	104	55.8%	16.3%	35.6%	3.8%
Gender					
Male	41	46.3%	22.0%	24.4%	0.0%
Female	82	57.3%	9.8%	42.7%	4.9%
Age Group					
0 -- 24	94	52.1%	16.0%	35.1%	1.1%
25 -- HI	29	58.6%	6.9%	41.4%	10.3%
Total	123	53.7%	13.8%	36.6%	3.3%

Table 2 (Continued)

Group	N	Persistence/ Completion	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
OJC -- Otero Junior College					
Ethnicity					
Black	0	--	--	--	--
Nat Amer	1	--	--	--	--
Asian	0	--	--	--	--
Hispanic	76	32.9%	9.2%	21.1%	2.6%
White	139	46.0%	20.1%	22.3%	3.6%
Gender					
Male	79	41.8%	22.8%	16.5%	2.5%
Female	137	40.9%	12.4%	24.8%	3.6%
Age Group					
0 -- 24	148	48.0%	21.6%	23.6%	2.7%
25 -- HI	68	26.5%	4.4%	17.6%	4.4%
Total	216	41.2%	16.2%	21.8%	3.2%
PPCC -- Pikes Peak Community College					
Ethnicity					
Black	48	20.8%	8.3%	6.3%	6.3%
Nat Amer	4	--	--	--	--
Asian	13	61.5%	38.5%	15.4%	7.7%
Hispanic	40	25.0%	17.5%	5.0%	2.5%
White	484	43.0%	17.4%	13.8%	11.8%
Gender					
Male	256	37.9%	19.5%	12.5%	5.9%
Female	333	42.0%	15.0%	12.6%	14.4%
Age Group					
0 -- 24	377	41.1%	23.1%	8.0%	10.1%
25 -- HI	212	38.7%	6.1%	20.8%	11.8%
Total	589	40.2%	17.0%	12.6%	10.7%
PCC -- Pueblo Community College					
Ethnicity					
Black	1	--	--	--	--
Nat Amer	3	--	--	--	--
Asian	0	--	--	--	--
Hispanic	30	53.3%	20.0%	16.7%	16.7%
White	111	47.7%	16.2%	24.3%	7.2%
Gender					
Male	66	40.9%	16.7%	15.2%	9.1%
Female	79	55.7%	17.7%	29.1%	8.9%
Age Group					
0 -- 24	95	50.5%	18.9%	24.2%	7.4%
25 -- HI	50	46.0%	14.0%	20.0%	12.0%
Total	145	49.0%	17.2%	22.8%	9.0%

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Table 2 (Continued)

Group	N	Persistence/ Completion	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
RRCC -- Red Rocks Community College					
Ethnicity					
Black	4	--	--	--	--
Nat Amer	0	--	--	--	--
Asian	2	--	--	--	--
Hispanic	16	37.5%	12.5%	18.8%	6.3%
White	277	45.1%	23.8%	9.7%	11.6%
Gender					
Male	168	43.5%	21.4%	11.9%	10.1%
Female	131	45.0%	25.2%	7.6%	12.2%
Age Group					
0 -- 24	218	42.7%	25.2%	9.6%	7.8%
25 -- HI	81	48.1%	17.3%	11.1%	19.8%
Total	299	44.1%	23.1%	10.0%	11.0%
AIMS -- Aims Community College					
Ethnicity					
Black	3	--	--	--	--
Nat Amer	4	--	--	--	--
Asian	3	--	--	--	--
Hispanic	45	31.1%	20.0%	2.2%	8.9%
White	269	66.5%	38.3%	15.6%	12.6%
Gender					
Male	159	60.4%	40.3%	7.5%	12.6%
Female	165	63.6%	32.7%	18.8%	12.1%
Age Group					
0 -- 24	248	62.9%	38.7%	13.3%	10.9%
25 -- HI	76	59.2%	28.9%	13.2%	17.1%
Total	324	62.0%	36.4%	13.3%	12.3%
CNCC -- Colorado Northwestern Community College					
Ethnicity					
Black	4	--	--	--	--
Nat Amer	0	--	--	--	--
Asian	2	--	--	--	--
Hispanic	18	55.6%	38.9%	16.7%	0.0%
White	114	58.8%	25.4%	29.8%	3.5%
Gender					
Male	95	60.0%	35.8%	23.2%	1.1%
Female	43	51.2%	7.0%	37.2%	7.0%
Age Group					
0 -- 24	121	59.5%	29.8%	28.1%	1.7%
25 -- HI	17	41.2%	5.9%	23.5%	11.8%
Total	138	57.2%	26.8%	27.5%	2.9%

Table 2 (Continued)

Group	N	Persistence/ Completion	Percent Transferred	Degree/ Certificate	Enrolled Fall 1990
ASC -- Adams State College					
Ethnicity					
Black	4	--	--	--	--
Nat Amer	1	--	--	--	--
Asian	1	--	--	--	--
Hispanic	32	37.5%	31.3%	3.1%	3.1%
White	59	42.4%	39.0%	1.7%	1.7%
Gender					
Male	63	36.5%	33.3%	1.6%	1.6%
Female	34	44.1%	38.2%	2.9%	2.9%
Age Group					
0 -- 24	78	37.2%	33.3%	1.3%	2.6%
25 -- HI	19	47.4%	42.1%	5.3%	0.0%
Total	97	39.2%	35.1%	2.1%	2.1%
MESA -- Mesa State College					
Ethnicity					
Black	8	--	--	--	--
Nat Amer	0	--	--	--	--
Asian	1	--	--	--	--
Hispanic	15	86.7%	40.0%	46.7%	0.0%
White	312	42.6%	23.7%	14.1%	4.8%
Gender					
Male	190	47.9%	30.0%	13.7%	4.2%
Female	146	39.7%	17.8%	17.1%	4.8%
Age Group					
0 -- 24	276	42.8%	26.4%	12.0%	4.3%
25 -- HI	60	51.7%	16.7%	30.0%	5.0%
Total	336	44.3%	24.7%	15.2%	4.5%

Attachment 3

Summary of Data Used in Transfer Rate and Two-Year Persistence/Completion Rate Analysis

Fall 1986 First-Time Students to Colorado Public Community Colleges and Two-Year Programs[1]

Group	Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
2Yr-Tot -- State Total for Two-Year Programs						
Ethnicity						
Unknown	1,474	93.6%	1,380	31.6%	436	
NRA	148	15.5%	23	43.5%	10	
Black	323	92.6%	299	53.8%	161	161
Nat Amer	110	88.2%	97	34.0%	33	33
Asian	208	90.4%	188	54.3%	102	102
Hispanic	943	96.5%	910	51.2%	466	465
White	6,796	95.1%	6,465	48.7%	3,151	3,151
Gender						
Unknown	55	74.5%	41	19.5%	8	
Male	4,449	91.7%	4,081	51.0%	2,081	1,820
Female	5,498	95.3%	5,240	43.3%	2,270	2,092
Age Group						
0 -- 24	5,524	93.2%	5,151	59.2%	3,050	2,766
25 -- HI	4,478	94.0%	4,211	31.1%	1,309	1,146
Total	10,002	93.6%	9,362	46.6%	4,359	3,912
ACC -- Arapahoe Community College						
Ethnicity						
Unknown	166	98.2%	163	4.9%	8	
NRA	44	6.8%	3	0.0%	0	
Black	36	100.0%	36	19.4%	7	7
Nat Amer	30	73.3%	22	22.7%	5	5
Asian	42	85.7%	36	47.2%	17	17
Hispanic	93	93.5%	87	32.2%	28	28
White	1,504	94.4%	1,420	39.6%	563	563
Gender						
Unknown	0	0.0%	0	0.0%	0	
Male	809	89.0%	720	43.1%	310	305
Female	1,106	94.7%	1,047	30.4%	318	315
Age Group						
0 -- 24	1,149	91.8%	1,055	47.9%	505	499
25 -- HI	766	93.0%	712	17.3%	123	121
Total	1,915	92.3%	1,767	35.5%	628	620

[1]Due to data problems, data for four community colleges are excluded from the cohort: Colorado Mountain College is excluded since credit hour data was missing for most first-time students in fall 1986; Morgan Community College and Trinidad State Junior College are excluded due to data problems; and Northeastern Junior College is excluded since data for their fall 1986 cohort is unavailable.

	Group	Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
CCA -- Community College of Aurora							
Ethnicity							
	Unknown	9	66.7%	6	0.0%	0	
	NRA	2	50.0%	1	0.0%	0	
	Black	56	96.4%	54	40.7%	22	22
	Nat Amer	9	100.0%	9	11.1%	1	1
	Asian	12	100.0%	12	16.7%	2	2
	Hispanic	21	95.2%	20	20.0%	4	4
	White	333	94.0%	313	26.5%	83	83
Gender							
	Unknown	9	77.8%	7	0.0%	0	
	Male	145	89.0%	129	26.4%	34	34
	Female	288	96.9%	279	28.0%	78	78
Age Group							
	0 -- 24	211	92.4%	195	36.4%	71	71
	25 -- HI	231	95.2%	220	18.6%	41	41
	Total	442	93.9%	415	27.0%	112	112
CCD -- Community College of Denver							
Ethnicity							
	Unknown	36	50.0%	18	16.7%	3	
	NRA	38	13.2%	5	40.0%	2	
	Black	87	93.1%	81	60.5%	49	49
	Nat Amer	17	100.0%	17	58.8%	10	10
	Asian	70	97.1%	68	54.4%	37	37
	Hispanic	242	96.7%	234	39.7%	93	93
	White	477	95.4%	455	48.6%	221	221
Gender							
	Unknown	26	65.4%	17	17.6%	3	
	Male	416	88.2%	367	42.2%	155	155
	Female	525	94.1%	494	52.0%	257	255
Age Group							
	0 -- 24	483	85.9%	415	51.1%	212	208
	25 -- HI	484	95.7%	463	43.8%	203	202
	Total	967	90.8%	878	47.3%	415	410
FRCC -- Front Range Community College							
Ethnicity							
	Unknown	10	80.0%	8	0.0%	0	
	NRA	3	66.7%	2	50.0%	1	
	Black	20	95.0%	19	52.6%	10	10
	Nat Amer	10	100.0%	10	20.0%	2	2
	Asian	37	86.5%	32	75.0%	24	24
	Hispanic	105	100.0%	105	49.5%	52	52
	White	909	98.7%	897	46.3%	415	415
Gender							
	Unknown	2	100.0%	2	0.0%	0	
	Male	430	97.7%	420	49.8%	209	209
	Female	662	98.3%	651	45.3%	295	294
Age Group							
	0 -- 24	593	97.8%	580	57.6%	334	333
	25 -- HI	501	98.4%	493	34.5%	170	170
	Total	1,094	98.1%	1,073	47.0%	504	503

Group	Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
LCC -- Lamar Community College						
Ethnicity						
Unknown	17	100.0%	17	11.8%	2	
NRA	2	50.0%	1	100.0%	1	
Black	6	16.7%	1	100.0%	1	1
Nat Amer	3	100.0%	3	66.7%	2	2
Asian	0	0.0%	0	0.0%	0	
Hispanic	18	100.0%	18	88.9%	16	16
White	155	92.3%	143	72.7%	104	104
Gender						
Unknown	6	100.0%	6	16.7%	1	
Male	67	80.6%	54	77.8%	42	41
Female	128	96.1%	123	67.5%	83	82
Age Group						
0 -- 24	135	88.1%	119	81.5%	97	94
25 -- HI	66	97.0%	64	45.3%	29	29
Total	201	91.0%	183	68.9%	126	123
OJC -- Otero Junior College						
Ethnicity						
Unknown	2	100.0%	2	0.0%	0	
NRA	0	0.0%	0	0.0%	0	
Black	0	0.0%	0	0.0%	0	
Nat Amer	2	50.0%	1	100.0%	1	1
Asian	0	0.0%	0	0.0%	0	
Hispanic	96	99.0%	95	80.0%	76	76
White	203	97.0%	197	70.6%	139	139
Gender						
Unknown	0	0.0%	0	0.0%	0	
Male	110	95.5%	105	75.2%	79	79
Female	193	98.4%	190	72.1%	137	137
Age Group						
0 -- 24	178	97.8%	174	85.1%	148	148
25 -- HI	125	96.8%	121	56.2%	68	68
Total	303	97.4%	295	73.2%	216	216
PPCC -- Pikes Peak Community College						
Ethnicity						
Unknown	56	89.3%	50	34.0%	17	
NRA	11	54.5%	6	33.3%	2	
Black	81	95.1%	77	62.3%	48	48
Nat Amer	10	100.0%	10	40.0%	4	4
Asian	28	96.4%	27	48.1%	13	13
Hispanic	80	93.8%	75	53.3%	40	40
White	1,110	92.7%	1,029	47.0%	484	484
Gender						
Unknown	0	0.0%	0	0.0%	0	
Male	587	91.5%	537	48.4%	260	256
Female	789	93.4%	737	47.2%	348	333
Age Group						
0 -- 24	740	93.8%	694	55.8%	387	377
25 -- HI	636	91.2%	580	38.1%	221	212
Total	1,376	92.6%	1,274	47.7%	608	589

Group	Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
PCC -- Pueblo Community College						
Ethnicity						
Unknown	0	0.0%	0	0.0%	0	
NRA	0	0.0%	0	0.0%	0	
Black	4	75.0%	3	33.3%	1	1
Nat Amer	9	88.9%	8	37.5%	3	3
Asian	1	100.0%	1	0.0%	0	
Hispanic	67	98.5%	66	45.5%	30	30
White	213	99.5%	212	52.4%	111	111
Gender						
Unknown	0	0.0%	0	0.0%	0	
Male	127	99.2%	126	52.4%	66	66
Female	167	98.2%	164	48.2%	79	79
Age Group						
0 -- 24	135	98.5%	133	71.4%	95	95
25 -- HI	159	98.7%	157	31.8%	50	50
Total	294	98.6%	290	50.0%	145	145
RRCC -- Red Rocks Community College						
Ethnicity						
Unknown	22	72.7%	16	18.8%	3	
NRA	36	2.8%	1	100.0%	1	
Black	8	87.5%	7	57.1%	4	4
Nat Amer	10	70.0%	7	0.0%	0	
Asian	5	60.0%	3	66.7%	2	2
Hispanic	60	95.0%	57	29.8%	17	16
White	707	97.2%	687	40.3%	277	277
Gender						
Unknown	11	72.7%	8	50.0%	4	
Male	458	88.9%	407	41.5%	169	168
Female	379	95.8%	363	36.1%	131	131
Age Group						
0 -- 24	499	91.8%	458	48.7%	223	218
25 -- HI	349	91.7%	320	25.3%	81	81
Total	848	91.7%	778	39.1%	304	299
AIMS -- Aims Community College						
Ethnicity						
Unknown	1,120	95.3%	1,067	36.7%	392	
NRA	5	80.0%	4	75.0%	3	
Black	7	71.4%	5	60.0%	3	3
Nat Amer	7	100.0%	7	57.1%	4	4
Asian	6	66.7%	4	75.0%	3	3
Hispanic	69	98.6%	68	66.2%	45	45
White	519	95.0%	493	54.6%	269	269
Gender						
Unknown	1	100.0%	1	0.0%	0	
Male	836	95.0%	794	50.5%	401	159
Female	896	95.2%	853	37.3%	318	165
Age Group						
0 -- 24	798	96.6%	771	64.1%	494	248
25 -- HI	935	93.8%	877	25.7%	225	76
Total	1,733	95.1%	1,648	43.6%	719	324

Group		Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
CNCC -- Colorado Northwestern Community College							
Ethnicity							
	Unknown	0	0.0%	0	0.0%	0	
	NRA	0	0.0%	0	0.0%	0	
	Black	5	80.0%	4	100.0%	4	4
	Nat Amer	0	0.0%	0	0.0%	0	
	Asian	2	100.0%	2	100.0%	2	2
	Hispanic	20	90.0%	18	100.0%	18	18
	White	144	84.7%	122	93.4%	114	114
Gender							
	Unknown	0	0.0%	0	0.0%	0	
	Male	115	84.3%	97	97.9%	95	95
	Female	56	87.5%	49	87.8%	43	43
Age Group							
	0 -- 24	143	86.7%	124	97.6%	121	121
	25 -- HI	28	78.6%	22	77.3%	17	17
	Total	171	85.4%	146	94.5%	138	138
ASC -- Adams State College							
Ethnicity							
	Unknown	0	0.0%	0	0.0%	0	
	NRA	1	0.0%	0	0.0%	0	
	Black	5	80.0%	4	100.0%	4	4
	Nat Amer	1	100.0%	1	100.0%	1	1
	Asian	3	66.7%	2	50.0%	1	1
	Hispanic	47	95.7%	45	71.1%	32	32
	White	99	88.9%	88	67.0%	59	59
Gender							
	Unknown	0	0.0%	0	0.0%	0	
	Male	88	93.2%	82	76.8%	63	63
	Female	68	85.3%	58	58.6%	34	34
Age Group							
	0 -- 24	104	91.3%	95	82.1%	78	78
	25 -- HI	52	86.5%	45	42.2%	19	19
	Total	156	89.7%	140	69.3%	97	97
MESA -- Mesa State College							
Ethnicity							
	Unknown	36	91.7%	33	33.3%	11	
	NRA	6	0.0%	0	0.0%	0	
	Black	8	100.0%	8	100.0%	8	8
	Nat Amer	2	100.0%	2	0.0%	0	
	Asian	2	50.0%	1	100.0%	1	1
	Hispanic	25	88.0%	22	68.2%	15	15
	White	423	96.7%	409	76.3%	312	312
Gender							
	Unknown	0	0.0%	0	0.0%	0	
	Male	261	93.1%	243	81.5%	198	190
	Female	241	96.3%	232	64.2%	149	146
Age Group							
	0 -- 24	356	94.9%	338	84.3%	285	276
	25 -- HI	146	93.8%	137	45.3%	62	60
	Total	502	94.6%	475	73.1%	347	336

Attachment 4
Four-Year Completion/Persistence Rate Analysis by Institution for Fall 1986, First-Time, Full-Time, In-State Freshmen to Colorado Public Colleges and Universities

Group	N[1]	Completion/ Persistence[2]	Percent Bach's Deg.	% Enrolled Fall 1990	% Transfer Fall 1990
ASC -- Adams State College					
Ethnicity					
Black	6	--	--	--	--
Nat Amer	2	--	--	--	--
Asian	2	--	--	--	--
Hispanic	65	50.8%	6.2%	30.8%	13.8%
White	214	54.2%	21.0%	21.5%	11.7%
Gender					
Male	113	54.9%	11.5%	29.2%	14.2%
Female	176	50.6%	20.5%	19.3%	10.8%
Total	289	52.2%	17.0%	23.2%	12.1%
CSM -- Colorado School of Mines					
Ethnicity					
Black	4	--	--	--	--
Nat Amer	1	--	--	--	--
Asian	6	--	--	--	--
Hispanic	17	58.8%	0.0%	52.9%	5.9%
White	156	62.8%	17.9%	37.8%	7.1%
Gender					
Male	150	63.3%	15.3%	42.0%	6.0%
Female	34	58.8%	23.5%	23.5%	11.8%
Total	184	62.5%	16.8%	38.6%	7.1%
CSU -- Colorado State University					
Ethnicity					
Black	32	59.4%	9.4%	40.6%	9.4%
Nat Amer	9	--	--	--	--
Asian	41	75.6%	24.4%	36.6%	14.6%
Hispanic	94	63.8%	16.0%	34.0%	13.8%
White	1,878	73.1%	21.9%	39.8%	11.3%
Gender					
Male	921	73.3%	16.0%	48.0%	9.3%
Female	1,133	71.5%	25.9%	32.5%	13.2%
Total	2,054	72.3%	21.4%	39.4%	11.4%
FLC -- Fort Lewis College					
Ethnicity					
Black	5	--	--	--	--
Nat Amer	12	50.0%	0.0%	33.3%	16.7%
Asian	5	--	--	--	--
Hispanic	42	54.8%	11.9%	16.7%	26.2%
White	771	60.3%	16.2%	19.5%	24.6%
Gender					
Male	497	58.8%	9.9%	21.7%	27.2%
Female	338	61.2%	24.0%	16.6%	20.7%
Total	835	59.8%	15.6%	19.6%	24.6%

[1]Non-Resident Aliens and students with missing ethnicity or gender are excluded. (See Attachment 2).

[2]Rates are not computed for subcategories with fewer than 10 students.

Table 4 (Continued)

Group	N	Completion/ Persistence	Percent Bach's Deg.	% Enrolled Fall 1990	% Transfer Fall 1990
MESA -- Mesa State College					
Ethnicity					
Black	4	--	--	--	--
Nat Amer	3	--	--	--	--
Asian	2	--	--	--	--
Hispanic	12	25.0%	16.7%	0.0%	8.3%
White	296	45.3%	6.4%	26.0%	12.8%
Gender					
Male	163	44.8%	6.1%	25.2%	13.5%
Female	154	45.5%	7.1%	25.3%	13.0%
Total					
	317	45.1%	6.6%	25.2%	13.2%
MSC -- Metropolitan State College of Denver					
Ethnicity					
Black	32	31.3%	3.1%	18.8%	9.4%
Nat Amer	6	--	--	--	--
Asian	41	51.2%	7.3%	29.3%	14.6%
Hispanic	101	41.6%	3.0%	31.7%	6.9%
White	765	49.4%	8.0%	27.8%	13.6%
Gender					
Male	480	46.3%	6.7%	26.3%	13.3%
Female	465	50.1%	7.7%	29.7%	12.7%
Total					
	945	48.1%	7.2%	27.9%	13.0%
UCB -- University of Colorado - Boulder					
Ethnicity					
Black	40	55.0%	10.0%	27.5%	17.5%
Nat Amer	6	--	--	--	--
Asian	121	76.0%	30.6%	38.0%	7.4%
Hispanic	134	68.7%	20.1%	40.3%	8.2%
White	1,624	77.8%	35.0%	34.8%	7.9%
Gender					
Male	981	76.2%	28.2%	39.4%	8.6%
Female	944	76.7%	38.3%	30.6%	7.7%
Total					
	1,925	76.5%	33.2%	35.1%	8.2%
UCCS -- University of Colorado - Colorado Springs					
Ethnicity					
Black	6	--	--	--	--
Nat Amer	2	--	--	--	--
Asian	11	63.6%	27.3%	27.3%	9.1%
Hispanic	23	60.9%	13.0%	34.8%	13.0%
White	205	57.1%	9.3%	34.6%	13.2%
Gender					
Male	132	62.1%	9.1%	38.6%	14.4%
Female	115	52.2%	12.2%	29.6%	10.4%
Total					
	247	57.5%	10.5%	34.4%	12.6%

Table 4 (Continued)

Group	N	Completion/ Persistence	Percent Bach's Deg.	% Enrolled Fall 1990	% Transfer Fall 1990
UCD -- University of Colorado - Denver					
Ethnicity					
Black	3	--	--	--	--
Nat Amer	4	--	--	--	--
Asian	32	59.4%	6.3%	34.4%	18.8%
Hispanic	17	47.1%	0.0%	41.2%	5.9%
White	192	56.8%	14.1%	25.5%	17.2%
Gender					
Male	111	62.2%	10.8%	28.8%	22.5%
Female	137	49.6%	12.4%	26.3%	10.9%
Total	248	55.2%	11.7%	27.4%	16.1%
UNC -- University of Northern Colorado					
Ethnicity					
Black	21	38.1%	9.5%	14.3%	14.3%
Nat Amer	6	--	--	--	--
Asian	15	60.0%	20.0%	6.7%	33.3%
Hispanic	70	57.1%	14.3%	18.6%	24.3%
White	1,195	62.1%	14.5%	30.9%	16.7%
Gender					
Male	534	59.7%	9.4%	29.4%	21.0%
Female	773	62.6%	18.0%	29.8%	14.9%
Total	1,307	61.4%	14.5%	29.6%	17.4%
USC -- University of Southern Colorado					
Ethnicity					
Black	26	34.6%	0.0%	26.9%	7.7%
Nat Amer	1	--	--	--	--
Asian	3	--	--	--	--
Hispanic	102	52.0%	7.8%	32.4%	11.8%
White	301	56.1%	14.6%	29.6%	12.0%
Gender					
Male	209	52.6%	9.6%	32.1%	11.0%
Female	224	55.4%	15.2%	27.7%	12.5%
Total	433	54.0%	12.5%	29.8%	11.8%
WSC -- Western State College					
Ethnicity					
Black	6	--	--	--	--
Nat Amer	1	--	--	--	--
Asian	2	--	--	--	--
Hispanic	18	27.8%	5.6%	11.1%	11.1%
White	218	52.8%	21.1%	16.1%	15.6%
Gender					
Male	131	50.4%	17.6%	16.8%	16.0%
Female	114	50.9%	21.9%	14.0%	14.9%
Total	245	50.6%	19.6%	15.5%	15.5%

Attachment 5

Summary of Data Used in Four-Year Completion/Persistence Rate Analysis for Fall 1986 First-Time Freshmen to Colorado Public Colleges and Universities

Group		Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
4Yr-Tot -- State Total for Four-Year Programs							
Ethnicity							
	Unknown	110	49.1%	54	94.4%	51	
	NRA	94	12.8%	12	66.7%	8	
	Black	282	79.4%	224	82.6%	185	185
	Nat Amer	140	40.0%	56	94.6%	53	53
	Asian	402	73.9%	297	94.6%	281	281
	Hispanic	838	92.0%	771	90.1%	695	695
	White	10,929	78.3%	8,552	91.4%	7,815	7,815
Gender							
	Male	6,451	75.4%	4,866	91.5%	4,450	4,422
	Female	6,344	80.4%	5,100	90.9%	4,638	4,607
Total							
		12,795	77.9%	9,966	91.2%	9,088	9,029
ASC -- Adams State College							
Ethnicity							
	Unknown		0.0%		0.0%		
	NRA	1	0.0%		0.0%		
	Black	10	60.0%	6	100.0%	6	6
	Nat Amer	8	25.0%	2	100.0%	2	2
	Asian	3	66.7%	2	100.0%	2	2
	Hispanic	84	81.0%	68	95.6%	65	65
	White	266	82.0%	218	98.2%	214	214
Gender							
	Male	150	76.7%	115	98.3%	113	113
	Female	222	81.5%	181	97.2%	176	176
Total							
		372	79.6%	296	97.6%	289	289
CSM -- Colorado School of Mines							
Ethnicity							
	Unknown	5	40.0%	2	100.0%	2	
	NRA	10	0.0%		0.0%		
	Black	4	100.0%	4	100.0%	4	4
	Nat Amer	2	50.0%	1	100.0%	1	1
	Asian	10	60.0%	6	100.0%	6	6
	Hispanic	19	89.5%	17	100.0%	17	17
	White	258	60.5%	156	100.0%	156	156
Gender							
	Male	253	59.7%	151	100.0%	151	150
	Female	55	63.6%	35	100.0%	35	34
Total							
		308	60.4%	186	100.0%	186	184

Group		Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
CSU -- Colorado State University							
Ethnicity							
	Unknown	2	100.0%	2	100.0%	2	
	NRA	15	13.3%	2	100.0%	2	
	Black	49	71.4%	35	91.4%	32	32
	Nat Amer	17	64.7%	11	81.8%	9	9
	Asian	66	65.2%	43	95.3%	41	41
	Hispanic	107	88.8%	95	98.9%	94	94
	White	2,509	79.4%	1,992	94.3%	1,878	1,878
Gender							
	Male	1,292	77.2%	997	92.6%	923	921
	Female	1,473	80.3%	1,183	95.9%	1,135	1,133
Total							
		2,765	78.8%	2,180	94.4%	2,058	2,054
FLC -- Fort Lewis College							
Ethnicity							
	Unknown	10	70.0%	7	85.7%	6	
	NRA	3	0.0%		0.0%		
	Black	5	100.0%	5	100.0%	5	5
	Nat Amer	76	15.8%	12	100.0%	12	12
	Asian	9	55.6%	5	100.0%	5	5
	Hispanic	49	85.7%	42	100.0%	42	42
	White	889	89.5%	796	96.9%	771	771
Gender							
	Male	620	82.9%	514	97.3%	500	497
	Female	421	83.8%	353	96.6%	341	338
Total							
		1,041	83.3%	867	97.0%	841	835
MESA -- Mesa State College							
Ethnicity							
	Unknown	2	100.0%	2	100.0%	2	
	NRA	8	0.0%		0.0%		
	Black	4	100.0%	4	100.0%	4	4
	Nat Amer	3	100.0%	3	100.0%	3	3
	Asian	4	50.0%	2	100.0%	2	2
	Hispanic	14	100.0%	14	85.7%	12	12
	White	341	95.0%	324	91.4%	296	296
Gender							
	Male	193	93.3%	180	91.1%	164	163
	Female	183	92.3%	169	91.7%	155	154
Total							
		376	92.8%	349	91.4%	319	317
MSC -- Metropolitan State College of Denver							
Ethnicity							
	Unknown		0.0%		0.0%		
	NRA	6	66.7%	4	75.0%	3	
	Black	64	93.8%	60	53.3%	32	32
	Nat Amer	6	100.0%	6	100.0%	6	6
	Asian	49	98.0%	48	85.4%	41	41
	Hispanic	153	99.3%	152	66.4%	101	101
	White	1,156	97.5%	1,127	67.9%	765	765
Gender							
	Male	718	96.4%	692	69.5%	481	480
	Female	716	98.5%	705	66.2%	467	465
Total							
		1,434	97.4%	1,397	67.9%	948	945

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	Group	Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
UCB -- University of Colorado - Boulder							
Ethnicity							
	Unknown	72	36.1%	26	92.3%	24	
	NRA	23	8.7%	2	100.0%	2	
	Black	71	59.2%	42	95.2%	40	40
	Nat Amer	9	66.7%	6	100.0%	6	6
	Asian	183	67.8%	124	97.6%	121	121
	Hispanic	159	86.8%	138	97.1%	134	134
	White	3,014	55.2%	1,665	97.5%	1,624	1,624
Gender							
	Male	1,872	54.5%	1,020	97.5%	994	981
	Female	1,659	59.3%	983	97.4%	957	944
Total							
		3,531	56.7%	2,003	97.4%	1,951	1,925
UCCS -- University of Colorado - Colorado Springs							
Ethnicity							
	Unknown	1	100.0%	1	100.0%	1	
	NRA	1	0.0%		0.0%		
	Black	7	100.0%	7	85.7%	6	6
	Nat Amer	2	100.0%	2	100.0%	2	2
	Asian	12	100.0%	12	91.7%	11	11
	Hispanic	26	92.3%	24	95.8%	23	23
	White	268	96.3%	258	79.5%	205	205
Gender							
	Male	158	96.8%	153	86.9%	133	132
	Female	159	95.0%	151	76.2%	115	115
Total							
		317	95.9%	304	81.6%	248	247
UCD -- University of Colorado - Denver							
Ethnicity							
	Unknown	3	100.0%	3	100.0%	3	
	NRA	2	100.0%	2	50.0%	1	
	Black	8	100.0%	8	37.5%	3	3
	Nat Amer	5	80.0%	4	100.0%	4	4
	Asian	36	94.4%	34	94.1%	32	32
	Hispanic	25	96.0%	24	70.8%	17	17
	White	232	98.3%	228	84.2%	192	192
Gender							
	Male	135	98.5%	133	84.2%	112	111
	Female	176	96.6%	170	82.4%	140	137
Total							
		311	97.4%	303	83.2%	252	248
UNC -- University of Northern Colorado							
Ethnicity							
	Unknown	15	73.3%	11	100.0%	11	
	NRA	5	40.0%	2	0.0%		
	Black	24	87.5%	21	100.0%	21	21
	Nat Amer	9	77.8%	7	85.7%	6	6
	Asian	20	75.0%	15	100.0%	15	15
	Hispanic	77	94.8%	73	95.9%	70	70
	White	1,353	91.9%	1,244	96.1%	1,195	1,195
Gender							
	Male	619	90.3%	559	96.4%	539	534
	Female	884	92.1%	814	95.7%	779	773
Total							
		1,503	91.4%	1,373	96.0%	1,318	1,307

Group	Count	-> % ->	In-State	-> % ->	>= 12 Cr Hrs	Total Used
USC -- University of Southern Colorado						
Ethnicity						
Unknown		0.0%		0.0%		
NRA	14	0.0%		0.0%		
Black	30	86.7%	26	100.0%	26	26
Nat Amer	2	50.0%	1	100.0%	1	1
Asian	6	66.7%	4	75.0%	3	3
Hispanic	106	100.0%	106	96.2%	102	102
White	329	96.7%	318	94.7%	301	301
Gender						
Male	241	90.5%	218	95.9%	209	209
Female	246	96.3%	237	94.5%	224	224
Total						
	487	93.4%	455	95.2%	433	433
WSC -- Western State College						
Ethnicity						
Unknown		0.0%		0.0%		
NRA	6	0.0%		0.0%		
Black	6	100.0%	6	100.0%	6	6
Nat Amer	1	100.0%	1	100.0%	1	1
Asian	4	50.0%	2	100.0%	2	2
Hispanic	19	94.7%	18	100.0%	18	18
White	314	72.0%	226	96.5%	218	218
Gender						
Male	200	67.0%	134	97.8%	131	131
Female	150	79.3%	119	95.8%	114	114
Total						
	350	72.3%	253	96.8%	245	245

Attachment 6
Class Sizes
and
Fall to Fall Within System Persistence[1]
For First-Time, In-State, Full-Time Students
at Community Colleges and Two-Year Programs
(Students With Missing Gender and Ethnicity Excluded)

Group		Fall 86	Fall 87	Fall 88	Fall 89
ACC -- Arapahoe Community College					
Ethnicity					
Black	N:	6	13	9	11
	%:	--	30.8%	--	45.5%
Nat Amer	N:	4	6	12	9
	%:	--	--	33.3%	--
Asian	N:	16	13	8	15
	%:	62.5%	61.5%	--	66.7%
Hispanic	N:	20	34	33	28
	%:	65.0%	50.0%	51.5%	67.9%
White	N:	390	536	373	417
	%:	59.0%	59.1%	59.8%	61.2%
Gender					
Male	N:	235	284	220	219
	%:	57.4%	56.3%	59.5%	61.6%
Female	N:	201	318	215	261
	%:	60.7%	59.7%	57.2%	61.3%
Total					
	N:	436	602	435	480
	%:	58.9%	58.1%	58.4%	61.5%

[1]Percents only calculated if N >= 10.

Group		Fall 86	Fall 87	Fall 88	Fall 89
CCA -- Community College of Aurora					
Ethnicity					
Black	N:	9	29	28	44
	%:	--	37.9%	50.0%	34.1%
Nat Amer	N:	1	0	2	1
	%:	--	--	--	--
Asian	N:	2	6	2	8
	%:	--	--	--	--
Hispanic	N:	2	10	10	13
	%:	--	80.0%	70.0%	23.1%
White	N:	47	103	122	161
	%:	46.8%	39.8%	45.1%	40.4%
Gender					
Male	N:	22	71	59	98
	%:	45.5%	33.8%	45.8%	36.7%
Female	N:	39	77	105	129
	%:	41.0%	51.9%	47.6%	39.5%
Total					
	N:	61	148	164	227
	%:	42.6%	43.2%	47.0%	38.3%
CCD -- Community College of Denver					
Ethnicity					
Black	N:	34	56	50	57
	%:	35.3%	26.8%	42.0%	38.6%
Nat Amer	N:	10	8	5	7
	%:	30.0%	--	--	--
Asian	N:	34	32	19	40
	%:	38.2%	37.5%	57.9%	50.0%
Hispanic	N:	81	76	117	129
	%:	22.2%	40.8%	40.2%	40.3%
White	N:	185	204	245	235
	%:	31.9%	52.5%	51.4%	50.6%
Gender					
Male	N:	135	165	190	188
	%:	31.1%	44.2%	45.8%	50.0%
Female	N:	209	211	246	280
	%:	30.1%	44.1%	48.0%	43.6%
Total					
	N:	344	376	436	468
	%:	30.5%	44.1%	47.0%	46.2%

Group		Fall 86	Fall 87	Fall 88	Fall 89
FRCC -- Front Range Community College					
Ethnicity					
Black	N:	6	2	6	9
	%:	--	--	--	--
Nat Amer	N:	2	4	9	6
	%:	--	--	--	--
Asian	N:	22	21	23	24
	%:	63.6%	57.1%	60.9%	75.0%
Hispanic	N:	37	29	41	71
	%:	59.5%	37.9%	51.2%	33.8%
White	N:	294	409	542	692
	%:	57.1%	60.1%	62.9%	55.5%
Gender					
Male	N:	163	216	312	418
	%:	60.1%	57.4%	60.6%	48.8%
Female	N:	198	249	309	384
	%:	55.6%	59.4%	62.8%	60.4%
Total					
	N:	361	465	621	802
	%:	57.6%	58.5%	61.7%	54.4%
LCC -- Lamar Community College					
Ethnicity					
Black	N:	1	0	0	4
	%:	--	--	--	--
Nat Amer	N:	2	2	1	7
	%:	--	--	--	--
Asian	N:	0	0	0	0
	%:	--	--	--	--
Hispanic	N:	16	11	20	32
	%:	43.8%	45.5%	60.0%	40.6%
White	N:	87	133	150	154
	%:	63.2%	66.2%	61.3%	57.8%
Gender					
Male	N:	41	67	81	107
	%:	68.3%	71.6%	65.4%	56.1%
Female	N:	65	79	90	90
	%:	56.9%	59.5%	57.8%	53.3%
Total					
	N:	106	146	171	197
	%:	61.3%	65.1%	61.4%	54.8%

Group		Fall 86	Fall 87	Fall 88	Fall 89
MCC -- Morgan Community College[1]					
Ethnicity					
Black	N:	0	0	0	0
	%:	--	--	--	--
Nat Amer	N:	0	0	2	1
	%:	--	--	--	--
Asian	N:	0	0	0	0
	%:	--	--	--	--
Hispanic	N:	0	8	6	12
	%:	--	--	--	50.0%
White	N:	0	75	47	95
	%:	--	46.7%	44.7%	48.4%
Gender					
Male	N:	0	52	31	53
	%:	--	48.1%	38.7%	52.8%
Female	N:	0	31	24	55
	%:	--	38.7%	50.0%	45.5%
Total					
	N:	0	83	55	108
	%:	--	44.6%	43.6%	49.1%
OJC -- Otero Junior College					
Ethnicity					
Black	N:	0	1	1	6
	%:	--	--	--	--
Nat Amer	N:	1	0	3	1
	%:	--	--	--	--
Asian	N:	0	1	1	1
	%:	--	--	--	--
Hispanic	N:	76	50	61	54
	%:	42.1%	36.0%	60.7%	48.1%
White	N:	134	104	145	141
	%:	58.2%	71.2%	66.9%	55.3%
Gender					
Male	N:	78	61	94	100
	%:	52.6%	68.9%	61.7%	46.0%
Female	N:	133	95	117	103
	%:	52.6%	54.7%	65.8%	59.2%
Total					
	N:	211	156	211	203
	%:	52.6%	60.3%	64.0%	52.7%

[1]Data unavailable for fall 1986.

Group		Fall 86	Fall 87	Fall 88	Fall 89
PPCC -- Pikes Peak Community College					
Ethnicity					
Black	N:	39	35	33	23
	%:	51.3%	42.9%	33.3%	26.1%
Nat Amer	N:	3	7	7	8
	%:	--	--	--	--
Asian	N:	6	10	14	10
	%:	--	40.0%	64.3%	40.0%
Hispanic	N:	32	51	46	59
	%:	43.8%	43.1%	52.2%	30.5%
White	N:	332	414	350	338
	%:	54.2%	51.0%	50.3%	50.9%
Gender					
Male	N:	188	241	177	197
	%:	53.2%	47.7%	50.3%	47.7%
Female	N:	224	276	273	241
	%:	53.1%	50.0%	50.2%	46.1%
Total					
	N:	412	517	450	438
	%:	53.2%	48.9%	50.2%	46.8%
PCC -- Pueblo Community College					
Ethnicity					
Black	N:	0	4	1	12
	%:	--	--	--	33.3%
Nat Amer	N:	3	2	6	4
	%:	--	--	--	--
Asian	N:	0	1	1	0
	%:	--	--	--	--
Hispanic	N:	21	97	122	153
	%:	52.4%	59.8%	59.0%	49.0%
White	N:	90	168	179	238
	%:	51.1%	52.4%	55.9%	50.0%
Gender					
Male	N:	57	118	131	155
	%:	42.1%	55.9%	52.7%	50.3%
Female	N:	57	154	178	252
	%:	61.4%	55.2%	60.7%	48.0%
Total					
	N:	114	272	309	407
	%:	51.8%	55.5%	57.3%	48.9%

Group		Fall 86	Fall 87	Fall 88	Fall 89
RRCC -- Red Rocks Community College					
Ethnicity					
Black	N:	2	1	4	2
	%:	--	--	--	--
Nat Amer	N:	0	5	5	6
	%:	--	--	--	--
Asian	N:	2	6	8	2
	%:	--	--	--	--
Hispanic	N:	11	16	19	33
	%:	27.3%	43.8%	36.8%	36.4%
White	N:	197	252	320	349
	%:	54.3%	49.6%	46.6%	50.4%
Gender					
Male	N:	117	178	204	213
	%:	54.7%	46.6%	47.5%	48.8%
Female	N:	95	102	152	179
	%:	50.5%	52.0%	44.7%	50.8%
Total					
	N:	212	280	356	392
	%:	52.8%	48.6%	46.3%	49.7%
TSJC -- Trinidad State Junior College[1]					
Ethnicity					
Black	N:	0	3	4	8
	%:	--	--	--	--
Nat Amer	N:	0	1	0	1
	%:	--	--	--	--
Asian	N:	0	0	1	1
	%:	--	--	--	--
Hispanic	N:	0	82	125	105
	%:	--	47.6%	62.4%	67.6%
White	N:	0	69	103	131
	%:	--	68.1%	67.0%	68.7%
Gender					
Male	N:	0	98	137	136
	%:	--	55.1%	63.5%	69.9%
Female	N:	0	57	96	110
	%:	--	56.1%	62.5%	62.7%
Total					
	N:	0	155	233	246
	%:	--	55.5%	63.1%	66.7%

[1]Data unavailable for fall 1986.

Group		Fall 86	Fall 87	Fall 88	Fall 89
AIMS -- Aims Community College					
Ethnicity					
Black	N:	2	2	4	2
	%:	--	--	--	--
Nat Amer	N:	4	2	7	10
	%:	--	--	--	50.0%
Asian	N:	3	2	5	5
	%:	--	--	--	--
Hispanic	N:	38	27	97	86
	%:	42.1%	55.6%	25.8%	36.0%
White	N:	206	225	410	433
	%:	66.0%	65.8%	64.1%	64.9%
Gender					
Male	N:	129	134	286	286
	%:	57.4%	59.7%	54.5%	59.4%
Female	N:	124	124	237	250
	%:	68.5%	70.2%	59.9%	59.6%
Total					
	N:	253	258	523	536
	%:	62.8%	64.7%	57.0%	59.5%
CMC -- Colorado Mountain College[1]					
Ethnicity					
Black	N:	0	4	4	1
	%:	--	--	--	--
Nat Amer	N:	0	2	3	0
	%:	--	--	--	--
Asian	N:	0	1	3	1
	%:	--	--	--	--
Hispanic	N:	0	10	15	7
	%:	--	30.0%	53.3%	--
White	N:	0	230	231	122
	%:	--	67.0%	63.6%	73.8%
Gender					
Male	N:	0	136	142	58
	%:	--	56.6%	55.6%	69.0%
Female	N:	0	111	114	73
	%:	--	73.9%	69.3%	74.0%
Total					
	N:	0	247	256	131
	%:	--	64.4%	61.7%	71.8%

[1]Data unavailable for fall 1986.

Group		Fall 86	Fall 87	Fall 88	Fall 89
CNCC -- Colorado Northwestern Community College					
Ethnicity					
Black	N:	4	4	4	5
	%:	--	--	--	--
Nat Amer	N:	0	1	0	0
	%:	--	--	--	--
Asian	N:	2	0	0	0
	%:	--	--	--	--
Hispanic	N:	17	8	11	11
	%:	88.2%	--	81.8%	63.6%
White	N:	114	111	112	112
	%:	71.1%	64.9%	68.8%	67.9%
Gender					
Male	N:	97	70	92	87
	%:	74.2%	68.6%	68.5%	63.2%
Female	N:	40	54	35	41
	%:	67.5%	55.6%	77.1%	75.6%
Total					
	N:	137	124	127	128
	%:	72.3%	62.9%	70.9%	67.2%
NJC -- Northeastern Junior College[1]					
Ethnicity					
Black	N:	0	14	9	1
	%:	--	35.7%	--	--
Nat Amer	N:	0	0	2	0
	%:	--	--	--	--
Asian	N:	0	10	4	3
	%:	--	60.0%	--	--
Hispanic	N:	0	13	21	15
	%:	--	61.5%	76.2%	86.7%
White	N:	0	416	294	360
	%:	--	72.6%	74.8%	79.4%
Gender					
Male	N:	0	209	152	177
	%:	--	71.8%	73.0%	81.4%
Female	N:	0	244	178	202
	%:	--	70.1%	75.8%	77.7%
Total					
	N:	0	453	330	379
	%:	--	70.9%	74.5%	79.4%

[1]Data unavailable for fall 1986.

Group		Fall 86	Fall 87	Fall 88	Fall 89
ASC -- Adams State College					
Ethnicity					
Black	N:	4	4	3	3
	%:	--	--	--	--
Nat Amer	N:	1	0	1	1
	%:	--	--	--	--
Asian	N:	1	0	0	2
	%:	--	--	--	--
Hispanic	N:	34	25	36	40
	%:	50.0%	60.0%	55.6%	60.0%
White	N:	61	51	52	52
	%:	59.0%	62.7%	53.8%	53.8%
Gender					
Male	N:	65	46	50	51
	%:	52.3%	63.0%	52.0%	51.0%
Female	N:	36	34	42	47
	%:	55.6%	61.8%	54.8%	63.8%
Total					
	N:	101	80	92	98
	%:	53.5%	62.5%	53.3%	57.1%
MESA -- Mesa State College					
Ethnicity					
Black	N:	8	7	5	5
	%:	--	--	--	--
Nat Amer	N:	0	4	7	2
	%:	--	--	--	--
Asian	N:	1	5	1	1
	%:	--	--	--	--
Hispanic	N:	15	30	28	31
	%:	86.7%	40.0%	42.9%	51.6%
White	N:	319	286	295	327
	%:	55.8%	61.2%	52.2%	53.8%
Gender					
Male	N:	191	182	171	191
	%:	58.6%	58.8%	50.3%	53.9%
Female	N:	152	150	165	175
	%:	53.9%	58.0%	51.5%	52.6%
Total					
	N:	343	332	336	366
	%:	56.6%	58.4%	50.9%	53.3%

Attachment 7
Class Sizes
and
Fall to Fall Within System Persistence[1]
For First-Time, In-State, Full-Time Students
at Four-Year Colleges and Universities
(Students With Missing Gender and Ethnicity Excluded)

Group		Fall 86	Fall 87	Fall 88	Fall 89
ASC -- Adams State College					
Ethnicity					
Black	N:	6	2	6	5
	%:	--	--	--	--
Nat Amer	N:	2	2	2	2
	%:	--	--	--	--
Asian	N:	2	6	6	2
	%:	--	--	--	--
Hispanic	N:	65	70	56	62
	%:	66.2%	67.1%	73.2%	83.9%
White	N:	214	238	266	272
	%:	74.3%	76.9%	75.2%	80.5%
Gender					
Male	N:	113	142	140	169
	%:	74.3%	73.9%	73.6%	80.5%
Female	N:	176	176	196	174
	%:	71.0%	75.6%	75.5%	82.2%
Total					
	N:	289	318	336	343
	%:	72.3%	74.8%	74.7%	81.3%

[1]Percents only calculated if N >= 10.

Group		Fall 86	Fall 87	Fall 88	Fall 89
CSM -- Colorado School of Mines					
Ethnicity					
Black	N:	4	0	4	8
	%:	--	--	--	--
Nat Amer	N:	1	0	1	5
	%:	--	--	--	--
Asian	N:	6	9	7	12
	%:	--	--	--	91.7%
Hispanic	N:	17	13	12	21
	%:	64.7%	92.3%	91.7%	100.0%
White	N:	156	192	188	239
	%:	78.2%	85.4%	92.6%	95.4%
Gender					
Male	N:	150	176	169	223
	%:	75.3%	85.2%	92.9%	94.2%
Female	N:	34	38	43	62
	%:	82.4%	92.1%	93.0%	100.0%
Total					
	N:	184	214	212	285
	%:	76.6%	86.4%	92.9%	95.4%
CSU -- Colorado State University					
Ethnicity					
Black	N:	32	42	45	43
	%:	75.0%	85.7%	88.9%	81.4%
Nat Amer	N:	9	7	15	9
	%:	--	--	60.0%	--
Asian	N:	41	39	62	49
	%:	95.1%	87.2%	90.3%	87.8%
Hispanic	N:	94	98	139	121
	%:	79.8%	82.7%	84.9%	89.3%
White	N:	1,878	1,870	1,974	1,765
	%:	87.2%	89.1%	88.7%	92.8%
Gender					
Male	N:	921	889	1,045	877
	%:	86.3%	89.4%	86.0%	91.0%
Female	N:	1,133	1,167	1,190	1,110
	%:	87.1%	88.1%	90.3%	93.1%
Total					
	N:	2,054	2,056	2,235	1,987
	%:	86.8%	88.7%	88.3%	92.1%

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Group		Fall 86	Fall 87	Fall 88	Fall 89
FLC -- Fort Lewis College					
Ethnicity					
Black	N:	5	6	7	1
	%:	--	--	--	--
Nat Amer	N:	12	15	11	13
	%:	75.0%	66.7%	63.6%	76.9%
Asian	N:	5	3	3	5
	%:	--	--	--	--
Hispanic	N:	42	44	42	36
	%:	78.6%	68.2%	61.9%	72.2%
White	N:	771	746	673	715
	%:	76.8%	79.9%	76.2%	78.6%
Gender					
Male	N:	497	456	389	427
	%:	74.6%	79.4%	73.3%	76.6%
Female	N:	338	358	347	343
	%:	79.3%	77.9%	76.9%	79.9%
Total					
	N:	835	814	736	770
	%:	76.5%	78.7%	75.0%	78.1%
MESA -- Mesa State College					
Ethnicity					
Black	N:	4	1	5	6
	%:	--	--	--	--
Nat Amer	N:	3	0	2	3
	%:	--	--	--	--
Asian	N:	2	3	3	2
	%:	--	--	--	--
Hispanic	N:	12	13	15	29
	%:	50.0%	76.9%	73.3%	79.3%
White	N:	296	305	302	314
	%:	70.6%	67.5%	69.9%	69.1%
Gender					
Male	N:	163	142	150	150
	%:	70.6%	64.1%	66.0%	70.0%
Female	N:	154	180	177	204
	%:	69.5%	71.1%	72.3%	69.1%
Total					
	N:	317	322	327	354
	%:	70.0%	68.0%	69.4%	69.5%

Group		Fall 86	Fall 87	Fall 88	Fall 89
MSC -- Metropolitan State College of Denver					
Ethnicity					
Black	N:	32	41	54	58
	%:	56.3%	70.7%	68.5%	53.4%
Nat Amer	N:	6	0	5	7
	%:	--	--	--	--
Asian	N:	41	29	33	37
	%:	78.0%	72.4%	69.7%	75.7%
Hispanic	N:	101	105	140	153
	%:	60.4%	64.8%	64.3%	67.3%
White	N:	765	842	918	947
	%:	71.8%	67.9%	73.4%	75.1%
Gender					
Male	N:	480	539	557	559
	%:	71.5%	68.1%	72.4%	71.9%
Female	N:	465	478	593	643
	%:	69.0%	67.6%	71.3%	74.0%
Total					
	N:	945	1,017	1,150	1,202
	%:	70.3%	67.8%	71.8%	73.0%
UCB -- University of Colorado - Boulder					
Ethnicity					
Black	N:	40	55	65	57
	%:	75.0%	81.8%	61.5%	82.5%
Nat Amer	N:	6	7	17	12
	%:	--	--	70.6%	83.3%
Asian	N:	121	159	156	146
	%:	86.0%	86.2%	87.2%	87.7%
Hispanic	N:	134	167	174	174
	%:	81.3%	79.0%	79.3%	82.8%
White	N:	1,624	1,613	1,534	1,497
	%:	89.6%	89.4%	91.3%	93.5%
Gender					
Male	N:	981	1,001	1,023	990
	%:	87.2%	86.7%	89.1%	92.2%
Female	N:	944	1,000	923	896
	%:	89.8%	89.4%	88.3%	91.1%
Total					
	N:	1,925	2,001	1,946	1,886
	%:	88.5%	88.1%	88.7%	91.7%

Group		Fall 86	Fall 87	Fall 88	Fall 89
UCCS -- University of Colorado - Colorado Springs					
Ethnicity					
Black	N:	6	4	3	8
	%:	--	--	--	--
Nat Amer	N:	2	2	2	2
	%:	--	--	--	--
Asian	N:	11	9	10	16
	%:	72.7%	--	80.0%	87.5%
Hispanic	N:	23	17	19	17
	%:	69.6%	70.6%	68.4%	76.5%
White	N:	205	227	242	269
	%:	73.2%	70.5%	75.2%	74.7%
Gender					
Male	N:	132	123	131	156
	%:	72.7%	70.7%	74.0%	74.4%
Female	N:	115	136	145	156
	%:	73.0%	68.4%	76.6%	76.3%
Total					
	N:	247	259	276	312
	%:	72.9%	69.5%	75.4%	75.3%
UCD -- University of Colorado - Denver					
Ethnicity					
Black	N:	3	8	5	5
	%:	--	--	--	--
Nat Amer	N:	4	2	1	3
	%:	--	--	--	--
Asian	N:	32	37	52	35
	%:	71.9%	75.7%	90.4%	91.4%
Hispanic	N:	17	33	31	40
	%:	82.4%	63.6%	64.5%	70.0%
White	N:	192	235	221	253
	%:	74.5%	78.3%	78.3%	80.2%
Gender					
Male	N:	111	170	152	163
	%:	75.7%	75.3%	73.7%	77.3%
Female	N:	137	145	158	173
	%:	72.3%	77.2%	83.5%	82.1%
Total					
	N:	248	315	310	336
	%:	73.8%	76.2%	78.7%	79.8%

Group		Fall 86	Fall 87	Fall 88	Fall 89
UNC -- University of Northern Colorado					
Ethnicity					
Black	N:	21	22	24	43
	%:	71.4%	50.0%	70.8%	76.7%
Nat Amer	N:	6	3	4	7
	%:	--	--	--	--
Asian	N:	15	11	16	16
	%:	93.3%	81.8%	62.5%	87.5%
Hispanic	N:	70	108	129	135
	%:	78.6%	78.7%	76.7%	80.0%
White	N:	1,195	1,416	1,430	1,229
	%:	81.8%	79.5%	84.3%	84.0%
Gender					
Male	N:	534	602	641	574
	%:	80.5%	75.1%	80.3%	82.1%
Female	N:	773	958	962	856
	%:	82.1%	81.5%	85.2%	84.2%
Total					
	N:	1,307	1,560	1,603	1,430
	%:	81.5%	79.0%	83.3%	83.4%
USC -- University of Southern Colorado					
Ethnicity					
Black	N:	26	13	22	20
	%:	69.2%	61.5%	72.7%	55.0%
Nat Amer	N:	1	2	5	3
	%:	--	--	--	--
Asian	N:	3	3	4	10
	%:	--	--	--	60.0%
Hispanic	N:	102	119	162	179
	%:	70.6%	68.1%	70.4%	68.2%
White	N:	301	391	406	439
	%:	76.1%	71.4%	74.9%	74.7%
Gender					
Male	N:	209	230	288	288
	%:	75.6%	70.4%	70.5%	71.5%
Female	N:	224	298	311	363
	%:	73.7%	70.5%	76.8%	72.7%
Total					
	N:	433	528	599	651
	%:	74.6%	70.5%	73.8%	72.2%

Group		Fall 86	Fall 87	Fall 88	Fall 89
WSC -- Western State College					
Ethnicity					
Black	N:	6	11	5	12
	%:	--	63.6%	--	58.3%
Nat Amer	N:	1	7	2	4
	%:	--	--	--	--
Asian	N:	2	2	1	5
	%:	--	--	--	--
Hispanic	N:	18	37	16	28
	%:	72.2%	67.6%	50.0%	67.9%
White	N:	218	394	406	449
	%:	76.1%	76.4%	70.4%	75.7%
Gender					
Male	N:	131	282	243	299
	%:	75.6%	71.6%	70.0%	72.2%
Female	N:	114	169	187	199
	%:	76.3%	80.5%	69.0%	79.4%
Total					
	N:	245	451	430	498
	%:	75.9%	74.9%	69.5%	75.1%

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